

Stadium District MASTER PLAN



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The City of Binghamton
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Prepared by:
Whitham Planning Design
Landscape Architecture PLLC

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WHITHAM
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Acknowledgements

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We are grateful for the assistance of all project stakeholders and members of the public for their input in this Master Planning project

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Introduction

Chapter 1 Introduction

The Planning Process Overview

1.3. What is a Master Plan?

A Master Plan is a planning document that:

- Sets forth a commonly held vision and goals set by the community
- Provides recommendations about how to achieve those goals
- In the case of the Stadium District it:
 - Helps the City plan improvements to the District over time
 - Includes research and a streetscape design process
 - Identifies potential projects
- Is a tool that can be used to seek State and Federal Funding for implementation of projects

1.1. Project Inception

The City of Binghamton applied for and received funding from the New York State Empire State Development Strategic Planning and Feasibility Studied grant program in 2019. This funding application followed the successful retention of the Binghamton Rumble Ponies at Mirabito Stadium in Downtown Binghamton, a Double-A affiliate of the New York Mets. These efforts were spearheaded by the Mayor David administration with support from New York State Representative Brindisi and Senator Schumer in response to the potential for the team's franchise to be pulled from Binghamton. The Stadium District Master Plan (SDMP) is intended to capitalize on these efforts and to ensure the long-term vitality of the area surrounding the Stadium.

Additionally, there was a recognition by the City that there is potential for a revitalization of the Stadium District as part of the City wide efforts that have been focused on its downtown.

1.2. Project Team and Scope

After the City of Binghamton issued a Statement of Qualifications advertisement in December 2020, Whitham Planning Design Landscape Architecture, PLLC (WPD) was awarded the contract to work with the City to prepare the Stadium District Master Plan. Tasks included as part of this scope of services include:

- Regular coordination meetings with City of Binghamton staff from the Planning Department, Mayor's Office, and others;
- Public and stakeholder outreach including an online virtual survey, conversations with stakeholders and property owners in the district, and a large-group public meeting;
- Site research and analysis;
- Narrative descriptions of the Master Plan;
- Graphic descriptions of the Master Plan;
- Municipal approvals of the SDMP, including SEQR review presentations to the City Council and Planning Commission;
- Finalization of the Master Plan, including an matrix of project recommendations for reference by the City to mobilize funding and support to realize discrete elements of the Master Plan.

As part of these tasks, WPD engaged with its sub-consulting engineers at GTS Consulting for a Traffic Analysis within the District. City of Binghamton Planning Department staff provided reference documents, points of contact during stakeholder outreach, and oversight of the project.



1.4. The Master Plan Process

Establishing Goals

As a collaborative team, the City and WPD established project goals, as follows:

- Reviewed City planning efforts to date;
- Solicited public feedback regarding long-term planning goals and potential improvements for the District;
- Analyzed public feedback to understand priorities;
- Studied comparable successful community planning efforts and development;
- Presented draft Master Plan goals during large-group public meeting;
- Refined project goals based on public feedback.

Obtain public input

- The project team solicited public input in a variety of ways, including:
 - Press releases from the City that described the SDMP project and provided online links to the public input survey and other public meetings;
 - These press releases were sent to local media outlets and featured in a number of news articles;
 - An online public survey that garnered 370 responses from the public;
 - The online survey was promoted in news articles as well as on the Binghamton Rumble Ponies social media pages;
 - Outreach to project stakeholders;
 - The City provided a list of project stakeholders to WPD including phone numbers and email addresses to inform them of the project and key dates of when public outreach efforts would be occurring, including the survey, public meetings, and municipal meetings;
 - Mailings to property owners to promote the public meeting;
 - A hard copy postcard was mailed to all property owners within the District alerting them of the public meeting;
 - Facilitating a large-group public meeting in person to present draft ideas and discuss potential updates;
 - Online posting of SDMP report drafts for public comment
 - The project team has worked during the ongoing Covid-19 pandemic. This has required a greater emphasis on remote outreach, including the online public survey and remote stakeholder meetings via Zoom or phone calls. The project team held in-person meetings when possible and followed local, state, and federal health official guidelines as they relate to wearing masks and social distancing. The project team visited the District numerous times throughout the project and witnessed existing conditions in many weather and seasonal conditions as well as during different times of the day. Site visits during home games at the Stadium were held as well.



The Stadium District features several destinations that offer programming for all ages, including the Mirabito Stadium and Broome Co. Public Library.

Analyzing information

The project team developed the Master Plan using research and analysis as well as responding

to public input on the project. Analysis of existing conditions shows patterns of existing uses and potential opportunities. This initial analysis informed the public survey questions. Responses to the public survey informed the project team on public perception of the District's existing conditions and priorities for potential improvements in the area. When draft documents noting the goals for improvements to different categories of existing conditions, as well as draft graphics indicating potential improvements, were presented to the public and to municipal review boards, the project team refined the plans as needed in response to these comments.

Developing consensus regarding the proposed actions

The Master Plan underwent the State Environmental Quality Review process as defined by City of Binghamton public review procedures. This review was led by City Council and assisted by City Planning staff. These meetings are open to the public, whether held in person or virtually, and meeting agendas and materials are posted on the City website. During this review process, the project team presented the Master Plan in a series of draft formats as it was developed, and notified Council on what was updated since their last meeting. Each refined draft was informed by comments made by Council members.

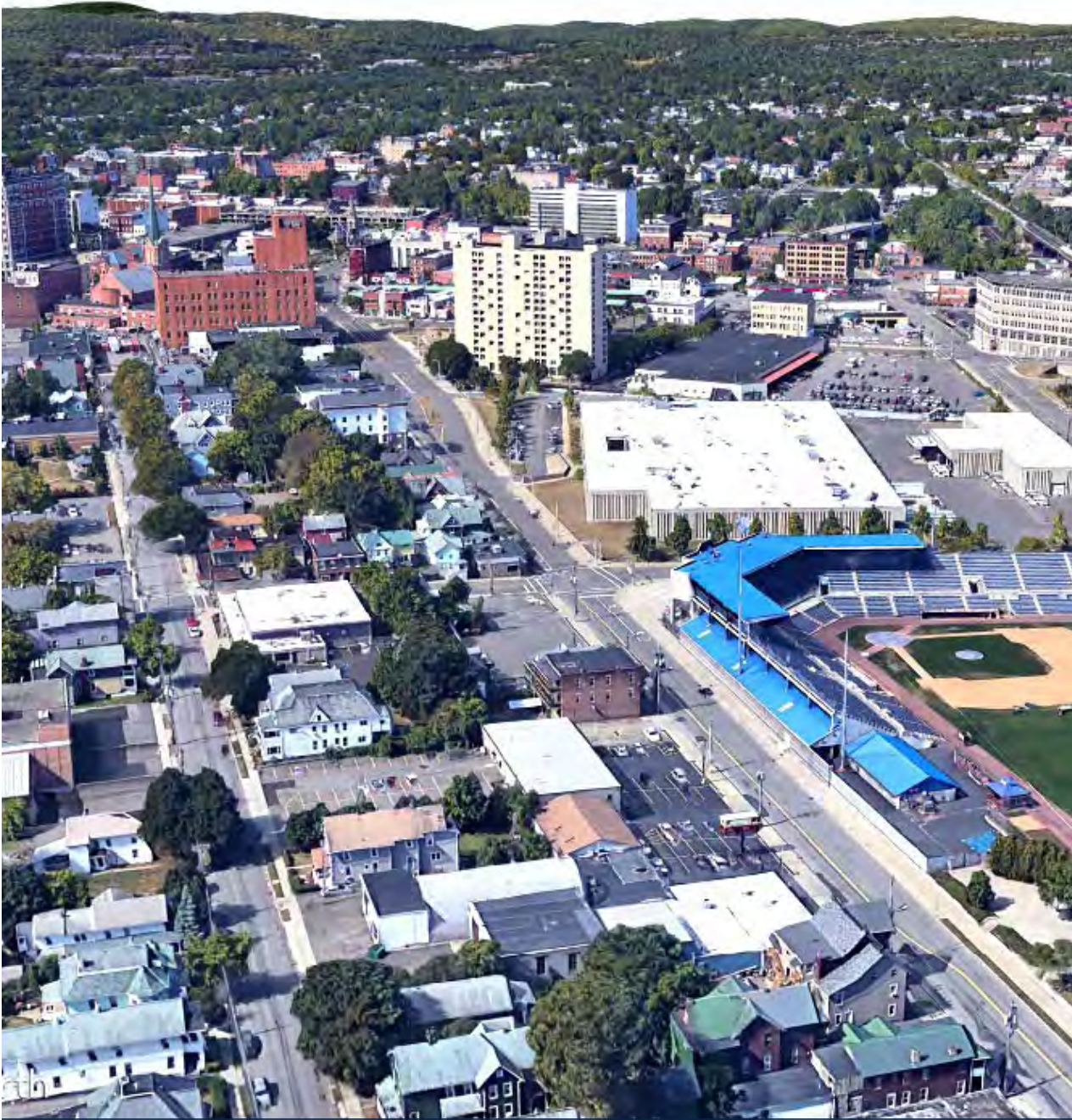
The Master Plan was also presented in draft format during the public outreach meeting. A [link](#) to the updated drafts presented to City Council was circulated to stakeholders and publicized for review and comment by the general public.

The Master Plan's goals were clearly expressed throughout the public review process. The graphics indicating potential improvements, as well as the project matrix that provided an initial list of potentially fundable projects to realize project goals, will be used as planning documents by the City. Each of the projects defined will undergo some form of public input before its construction.

Outcomes: A Long-term Planning Document

The SDMP will become a part of the City's planning documents that are expected to inform City decisions in and around the district for years to come. This document can be used by the City in a number of ways:

- To apply for funding for projects, such as grant funding;
- To allocate City budget to projects on City land, including with City street rights-of-way;
- To collaborate with other levels of government to coordinate projects on County- and/or Federally-owned land;
- As a basis for the SEQR review of public and private projects within the District;



The Stadium District is bounded by the Norfolk-Southern Railroad on the North, Libert Street on the East, Court Street on the South, and Chenango Street / Prospect Ave on the West.

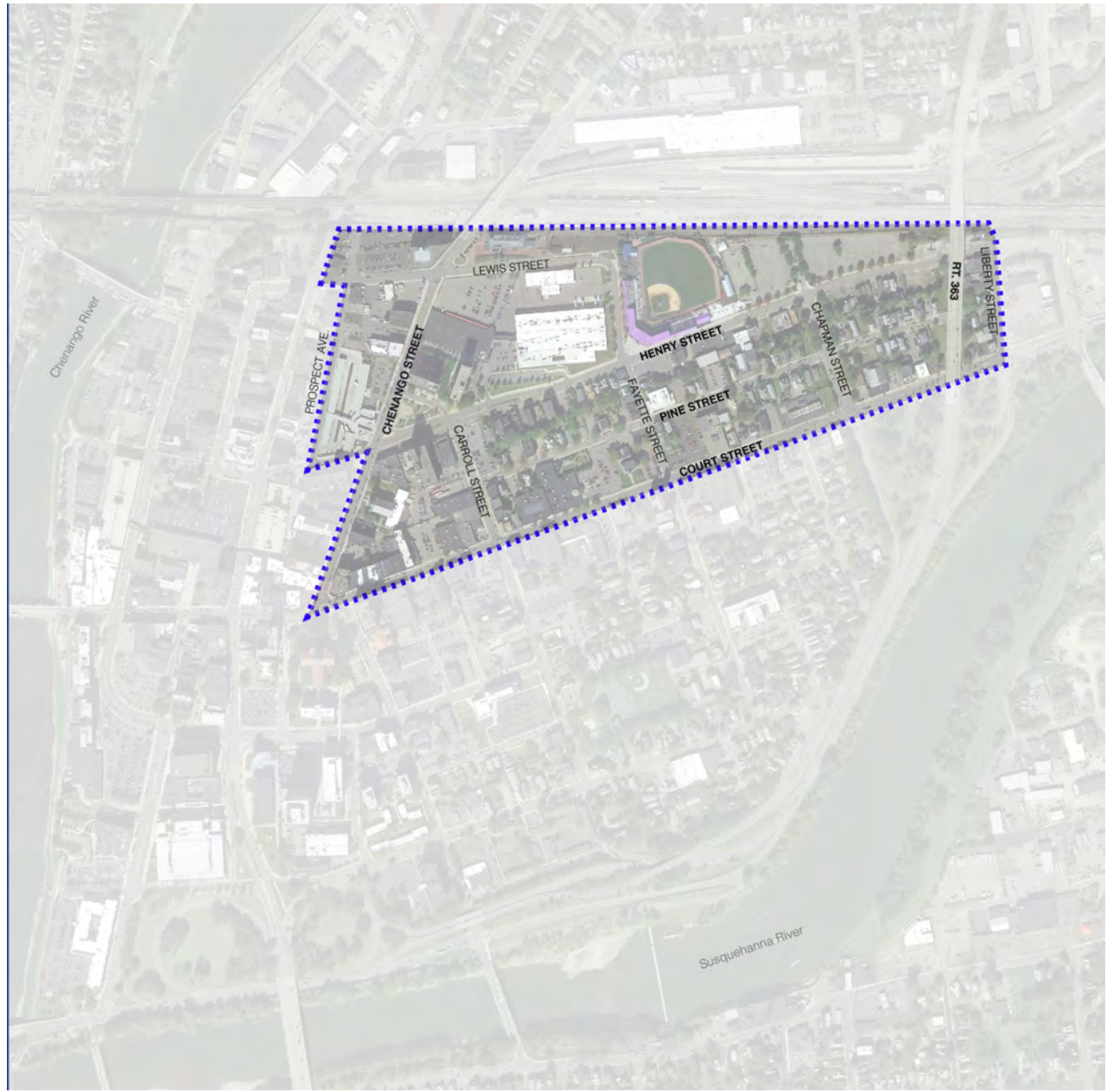
Chapter 2

The Context

Chapter 2 The Context

2.1 The Project Area

The project area is bounded by the Norfolk Southern Railroad on the north, Liberty Street on the east, Court Street on the south, and is primarily bound by Chenango Street and Prospect Avenue on the west. The district is immediately to the east of the downtown core and features a number of large public destinations, including the Stadium, the Broome County Public Library, the United States Postal Office, the Broome County Regional Transportation Center bus terminal, healthcare facilities including the local Veterans Administration clinic, cultural institutions including the Phelps Mansion museum, and a range of other land uses including single-family and apartment housing, businesses, restaurants, offices, light industrial uses, gas stations, and places of worship. The project boundaries were slightly modified during the planning process to include the full length of Prospect Avenue considering the importance of the Transit Center as a public destination.



The Stadium District is located east of Binghamton's downtown core and includes high and low intensity commercial and residential areas as well as some light industrial uses.

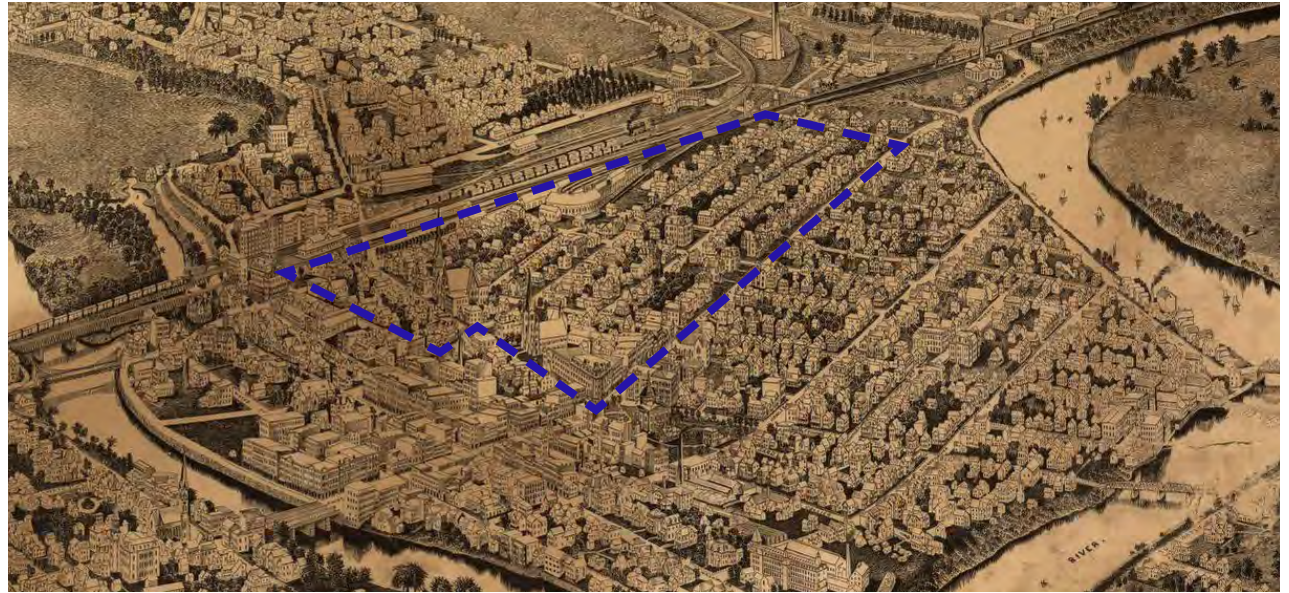
Historic Context

The district dates from the late 19th century and has undergone considerable changes in the mid and late 20th century.

Prior to the construction of the stadium, the district was a mixed residential, commercial and industrial neighborhood. An historic map from 1882 indicates that the street grid that defines the Stadium District were present, for the most part, at that time. The District was more residential in nature during this time and hosted large manors, particularly along Court Street which connected to the heart of downtown, as well as more modest housing. There were several buildings for use by what was then a busy railyard, including a roundhouse and railyard for the Delaware, Lackawanna, and Western Railroads, located where the Stadium is today on Henry and Fayette Streets. The District saw a density of housing during this time period, with small lots of one- and two-family houses, as well as larger buildings. The Arlington Hotel, a 6-story brick building, once stood at the corner of Chenango and Lewis Street, across the corner from the still-remaining Kilmer Building. This hotel served guests coming and going from the railroads. Another 4- to 6-story building stood across Chenango Street from the Arlington, and still others down Lewis Street near the corner of Lafayette Street. The First Baptist Church steeple climbed high into the sky on the corner of Chenango and Henry Streets, similar in scale to the still-existing First Presbyterian Church farther south on Chenango Street.

The existing Greyhound Station, now part of the Binghamton Regional Transportation Center, showcases Art Deco style architecture of the 1930's; the building features cast stone details and block lettering in the 'Streamline Moderne' style.

With rail use declining the City of Binghamton acquired the property and stadium construction



Above: An illustration from 1882 shows the District as a densely developed residential and railroad commercial area. Below: An aerial view from 1966 of the intersection of Chenango and Lewis Streets, showing the 5- to 8-story Arlington and Carleton hotel buildings, among others, that once lined these streets. Warren Street as shown in this image is in the current location of the US Post Office.

began in July 1991 after it was announced that the Williamsport Bills would be moving to Binghamton from Williamsport, Pennsylvania. The ballpark opened the following season, in April 1992, and has a seating capacity of 6,012 fans.

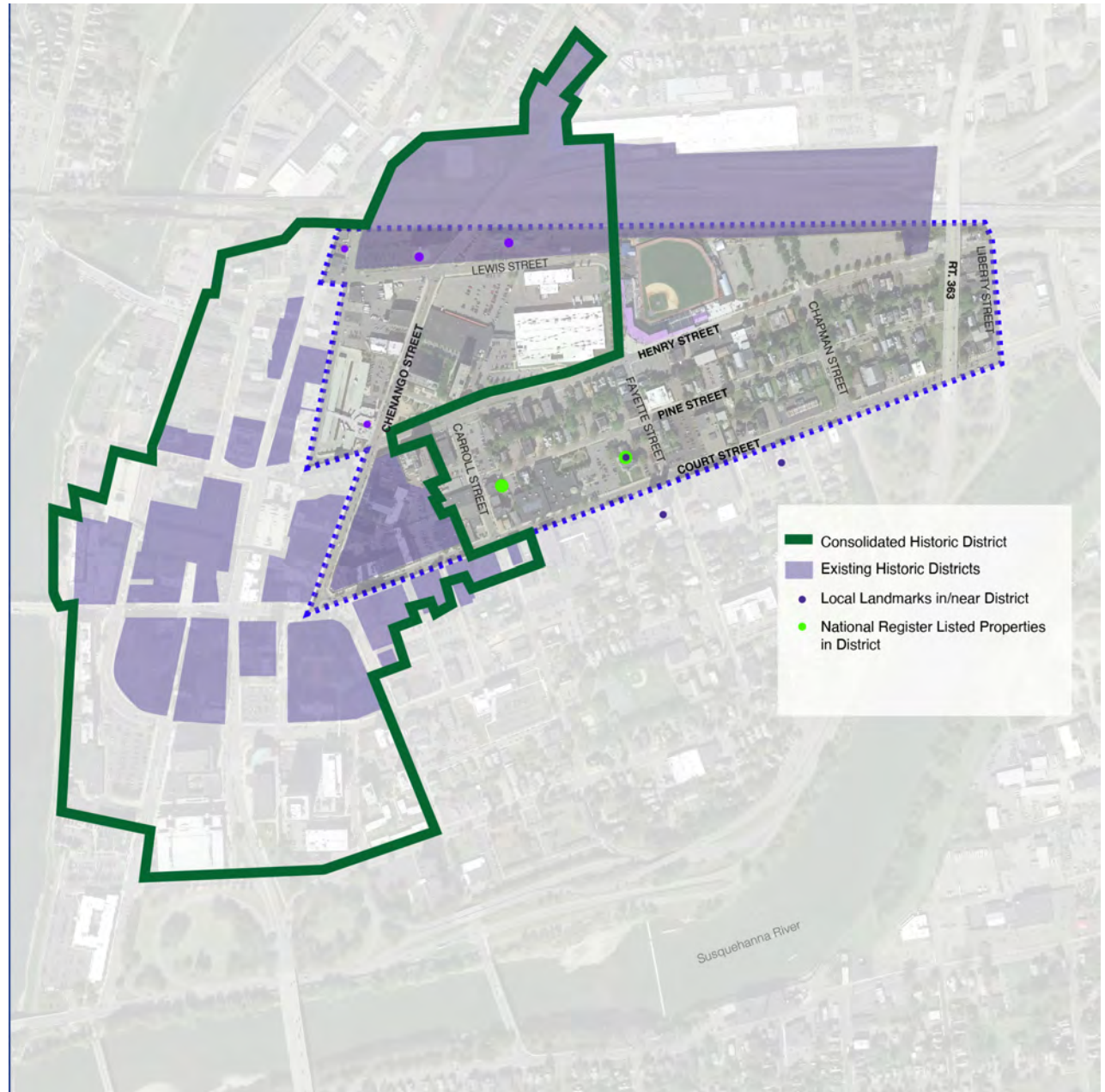
There are areas of intact historic context in the Stadium District. There are several properties that are eligible to be listed in the National Registry of Historic Places; these are primarily located on the western side of the District. There are two properties currently listed on the Registry within the District: the Phelps Mansion on Court Street and the Alfred Dunk House on Pine Street. The western portion of the District is within the existing Court Street Historic District, between Carroll and Chenango Streets. The northern portion of the District is within the Rail Terminal Historic District, between Lewis Street and the Norfolk-Southern Railroad.

As of this writing, the City is working on a proposed Consolidated Historic District, which will combine the currently designated Downtown historic districts and expand the boundary to include eligible properties. The proposed Consolidated Historic District includes the portion of the Stadium District between Lewis, Fayette, and Henry Street.

Local and Regional Context

Binghamton is the county seat of, Broome County, New York, United States. Surrounded by rolling hills, it lies in the state's Southern Tier region near the Pennsylvania border, in a bowl-shaped valley at the confluence of the Susquehanna and Chenango Rivers. Binghamton is the principal city and cultural center of the Binghamton metropolitan area (also known as Greater Binghamton, or historically the Triple Cities), home to a quarter million people. The city's population, according to the 2020 census, is 47,969.

The area was settled by the Onondaga tribe,



The consolidated historic district will expand opportunities for historic tax preservation credits for renovation projects of existing buildings. Several locally and nationally listed historic landmarks are in the District.

members of the Haudenosaunee, or Iroquois, Confederacy. The confluence of the Chenango and Susquehanna Rivers made this sacred ground and many artifacts have been unearthed along the riverbeds. The first known people of European descent who came to the area were the troops of the Sullivan Expedition in 1779, during the American Revolutionary War. The city was named after William Bingham, a wealthy Philadelphian who bought the 10,000 acre patent for the land in 1786, then consisting of parts of the towns of Union and Chenango. Bingham's land agent, chose land at the junction of the Chenango and Susquehanna Rivers to develop a settlement, then named Chenango Point, and helped build its roads and erect the first bridge. The Village of Binghamton was incorporated in 1834.

The Chenango Canal, completed in 1837, connected Binghamton to the Erie Canal, and was the incentive for the industrial development of the area. Growth again increased with the completion of the Erie Railroad between Binghamton and Jersey City, New Jersey in 1849. With the Delaware, Lackawanna and Western Railroad arriving soon afterward, the village became an important regional transportation center.

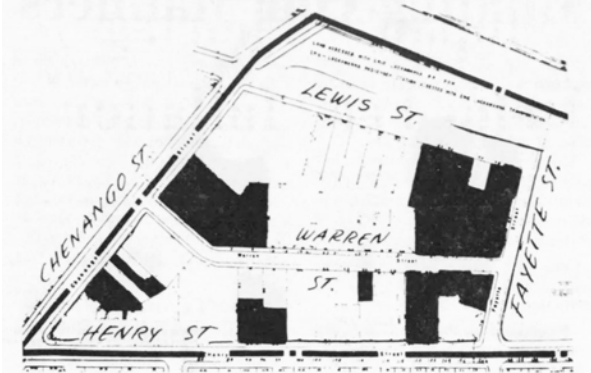
Past Planning Efforts

From the completion of the railroad onward, Binghamton has been a transportation crossroads and a manufacturing center, known at different times for the production of carousels, cigars, shoes, and computers. IBM was founded nearby, and the flight simulator was invented in the city, leading to a notable concentration of electronics- and defense-oriented firms. This sustained economic prosperity earned Binghamton the nickname the 'Valley of Opportunity.' Like many rust belt cities in the northeast, loss of industry starting with job cuts made by defense firms towards the end of the Cold War, the region lost a large part of its manufacturing industry. Good manufacturing followed. Today, while there is a continued concentration of high-tech firms, Binghamton is emerging as a healthcare and education focused city, with Binghamton University leading the growth.

In the Stadium District, Urban Renewal efforts in the 1970's and 1980s oversaw projects such as the U.S. Post Office Building and affiliated sorting facilities, as well as the senior supportive housing high-rises at 100 and 110 Chenango Street. The intentions of Urban Renewal were to revitalize the Stadium District into an area of concentrated industry and to remove areas perceived by planners at that time as blighted. During this time, Warren Street, which ran east-west between Chenango and Fayette Street, was removed to create a 'superblock' for the U.S. Post Office building; this was formerly a residential street. Chapman Street was added to the street grid, running north-south between Court and Henry Streets, and the Henry Street right-of-way was expanded and the street widened to its current dimensions; both of these efforts were to accommodate the intended large volumes of industrial traffic that were foreseen for the area. These efforts were not successful and spurred disinvestment in the District for decades to follow. The State Route 363 overpass, which dominates the eastern border of the District, was constructed in the 1960's.

The loss of industry and vitality in the Binghamton are issues faced by many Upstate New York cities, and that contemporary planning efforts such as the Stadium District Master Plan hope to overcome. The skyline of the District has changed, as well, reflecting planning efforts, land use, and occupation of the District over time.

Wed., Dec. 29, 1965 PRESS, Binghamton, N. Y. 5-A



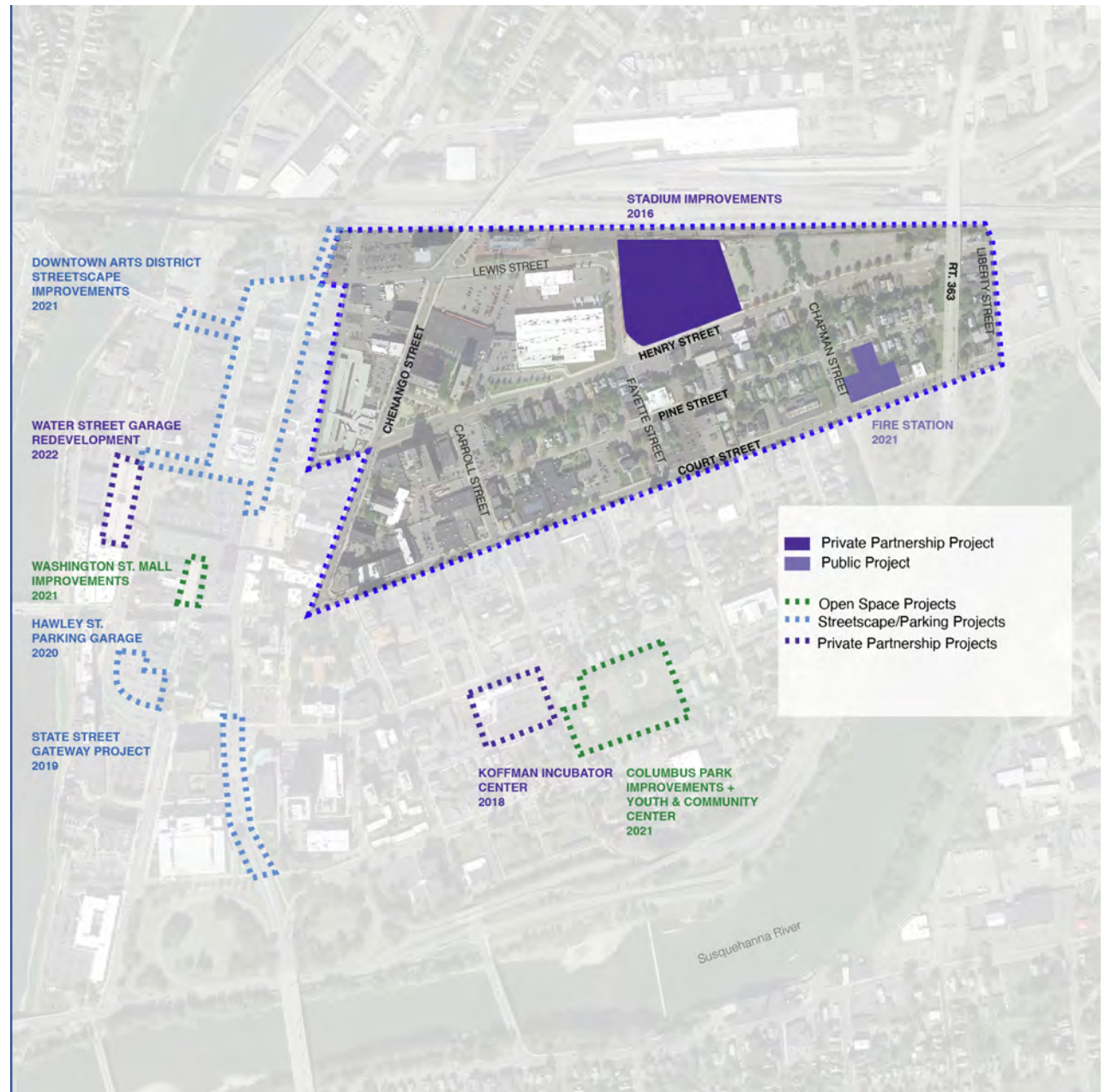
PROJECT TWO—This map shows in black the acquired properties in second urban renewal area.

A map from the Urban Renewal period showing properties slated for demolition in the current location of the US Post Office.

Recent Planning Efforts in Proximity to District

There have been a number of projects within the past decade that are contributing to the quality of the built environment in and around the District.

- 2016 – Significant improvements to the Stadium facilities were completed as a public-private partnership between the City and the Rumble Ponies (they were not the Rumble Ponies at the time) baseball team management.
- 2018 – The Koffman Incubator Center project brought a newly constructed institutional building to Hawley Street, which houses entrepreneurial business incubation in collaboration with Binghamton University, bringing new ideas and young professionals just one block from the district.
- 2019 – The State Street gateway project Enhanced the State Street entrance to downtown by rebuilding the streets as a ‘complete streets’ project, with new paving, green infrastructure, landscaping, site amenities, and signage.
- 2020 – A new parking garage on Hawley Street improves public parking downtown and could be utilized for game day parking when combined with a shuttle.
- 2021 - Within the District, the currently under-construction Fire Department building will enhance the appearance of this gateway into the District from the nearby Route 363 corridor. Just half a block away, the Downtown Arts District Streetscape Improvements projects plans enhanced streetscapes to attract people to arts and cultural organizations. The City plans for a public-private partnership to redevelop the Water Street parking garage, rebuilding the garage for public and private parking while building new moderate and market rate housing. The Washington Mall improvements project will enhance a public plaza in the downtown core on Court Street.



There have been a number of recent improvements to the built environment of downtown, and this Plan represents a framework for planning for improvements within the District.

The Columbus Park Improvements and Binghamton Youth and Community Center project will bring a new community center to the area and improvements to the park, just one and a half blocks from the District.

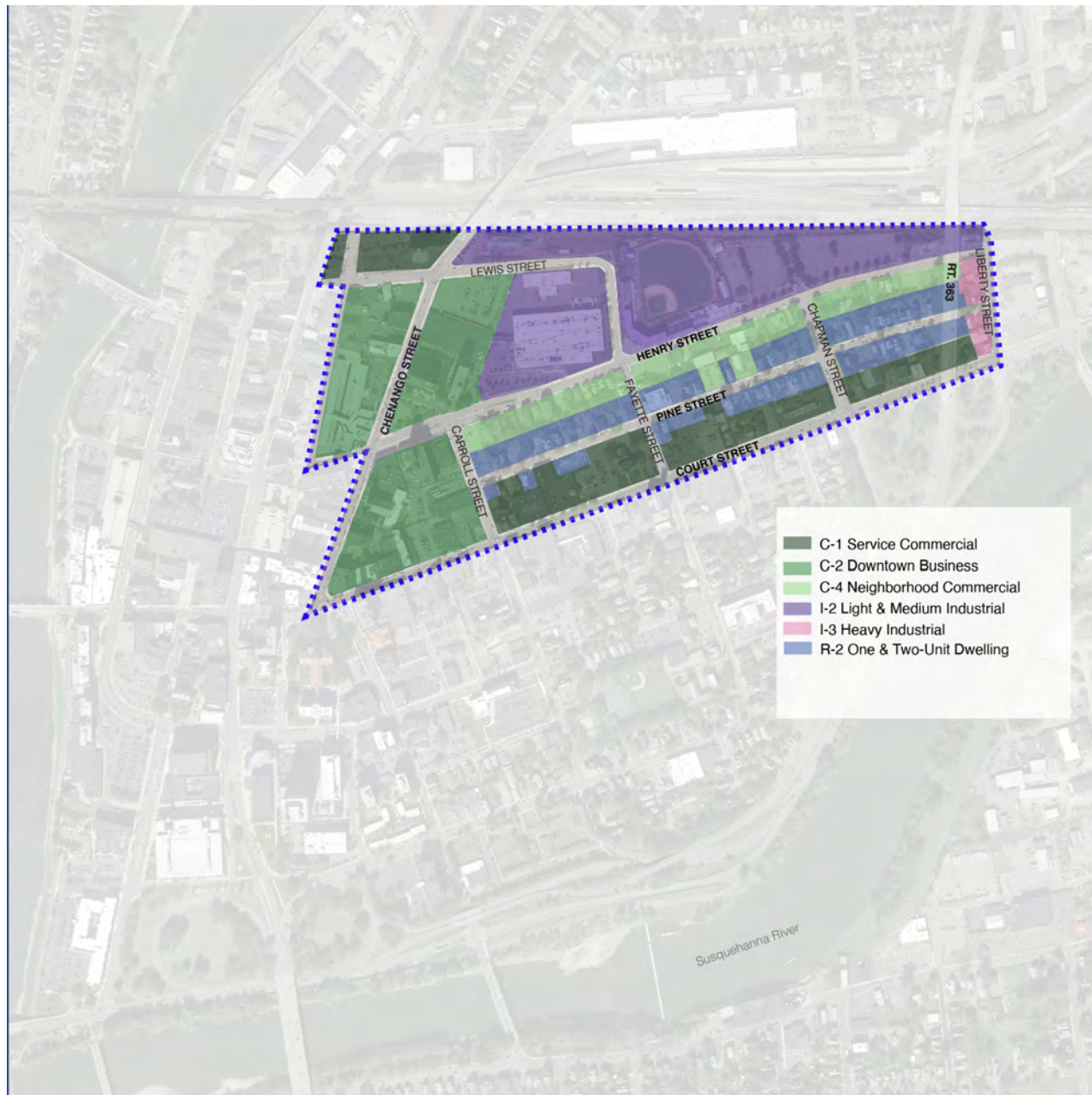
City of Binghamton Comprehensive Plan

The ‘Blueprint Binghamton: Forward Together,’ prepared in 2014, is an update of the City of Binghamton’s Comprehensive Plan, a planning effort to move the city forward. The plan focuses on the design and redevelopment of Main and Court Streets. Since the last Comprehensive Plan in 2003, new businesses and housing have brought new life to Downtown; the City’s population has stabilized, and the waterfront trail and parks have given a boost to the quality of life and regional image of Binghamton. It was understood that areas of the city could still benefit from improvement, in particular, the 2011-2013 flooding was a major impetus for the update. The study area borders the Stadium District and many of the recommendations related to complete streets, green infrastructure and walkability mirror recommendations made in the Master Plan.

Zoning

- There are six zones in the Stadium District:
- C-1 Service Commercial
- C-2 Downtown Business
- C-4 Neighborhood Commercial
- I-2 Light & Medium Industrial
- I-3 Heavy Industrial
- R-2 One & Two-Unit Dwelling.

This mixture reflects the variety of uses and building types that currently exist, but also the aspirations of the 1970s and 1980s that the area could become an industrial hub. With industry leaving the area and health care and higher education replacing it as major economic drivers, there is no heavy industry in the district.



The existing zoning in the District accounts for past and current land uses, but does not anticipate potential future uses in the District to the extent that could be possible.

2.2 Project Goals

The following are project goals that have been set forth through the Master Planning Process. These goals guide the proposals and recommendations throughout the report.

- Support sustainable economic growth in the Stadium District;
- Enhance existing public destinations, with a focus on Mirabito Stadium and Binghamton Rumble Ponies Double-A baseball team;
- Improve walkability in the Stadium District and improve connections to the nearby downtown core;
- Encourage high-quality housing and mixed-use residential, and commercial development in the Stadium District, with a focus on underutilized or undeveloped parcels, including renovations to existing buildings and/or new construction;
- Encourage sustainable development through the use of green infrastructure and sustainable building practices;
- Provide the City of Binghamton with a long-term planning tool to guide the success of this area of Downtown Binghamton.



The Master Plan is intended to bring new life and activity to the District, drawing from its existing assets and setting the stage for long-term improvements.

2.3 Terms and Definitions

The following is a list of terms to assist the reader with the most commonly used planning and landscape architectural design terms of the report.

- **Block structure:** The physical makeup of a given city block. The orientation, relative scales, and sizes of built and unbuilt spaces defines the 'structure' of a block. Block structure is useful when comparing one block or group or blocks with others.
- **Density:** Utilizing available land in a defined area for the highest possible concentration of uses; this can take the form of buildings spaced more closely together, taller height, and/or multiple activities within each building at different levels; often applied to urban areas.
- **Infill development:** Building in a previously unused or underutilized parcel to 'fill in' empty space in an urban setting; these locations are surrounded by other development / buildings.
- **Public Space:** Open space that can be used by any member of the public; these spaces can be used for activities, gathering, or individual activities. Can take the form of public parks, plazas, and even streets.
- **Sustainable:** The ability of a process or product to continually perform without harming the ecosystem;
- **Affordable housing:** Rental or for-sale housing that is allocated to people earning less than the average median income; uses fixed pricing as defined by State policies.
- **Area median income:** The midpoint of income earned within a given area or region; those earning less than the area median income may be eligible for assistance programs, such as qualifying for affordable housing.
- **Complete Street:** Describes a street that accommodates not only passenger vehicles but also transit options such as buses, bikes, and pedestrians within the right of way.
- **Connectivity:** Physical links between areas or neighborhoods that allow for intuitive wayfinding.
- **Gateway:** A physical entrance point to a neighborhood or area, often at the intersection or another threshold.
- **Green infrastructure:** Means of accommodating water runoff in using 'green' methods that mimic the natural hydrologic cycle; this contrasts with 'gray' infrastructure, such as pipes, culverts, etc.
- **Human scale:** The perceived scale of built features as they relate to the human body and experience.
- **Livable:** An area that meets the needs of
- **Mixed-use:** A variety of uses taking place within the same building; examples include buildings that have commercial or retail uses on the ground level, office uses on the 2nd or 3rd levels, and residential uses on upper levels.

- Multi modal: The various means of transportation other than passenger cars, such as walking, biking, and buses.
- Perceived safety: Experience of comfort and ease in a given environment; this may differ from 'real' safety, which refers to the factual probability of danger, as opposed to one's experience of feeling safe.
- Traffic calming: Means of enhancing pedestrian safety, often by reducing travel speeds by using built features designed as part of the roadway; these can include speed humps, signage, narrowing travel lanes, curbs that 'bump out' at intersections or other places, and amenities such as street trees.
- Urban renewal: A period of history during the 1960's, 70's, and 80's where planners and governments believed that starting over was the best way to retrofit a city for its improvement; these beliefs led to widespread removal of buildings, displacement of housing, and reorientation of roadways in downtown contexts throughout the country.
- Vibrant: An area that hosts a variety of activities that are well-used by a similar variety of user groups; vibrant areas show clear indications of care and community investment.
- Walkable: Destinations that are within close enough proximity to each other to be easily reachable on foot by the average able-bodied person; walkable areas feature sidewalks and other amenities that make walking an attractive, comfortable, and safe option for pedestrians.



Rumble Ponies baseball games and other programs attract people from across the region.

Chapter 3

Existing Conditions

Chapter 3 Existing Conditions

Existing Conditions: Assets, Opportunities, and Challenges

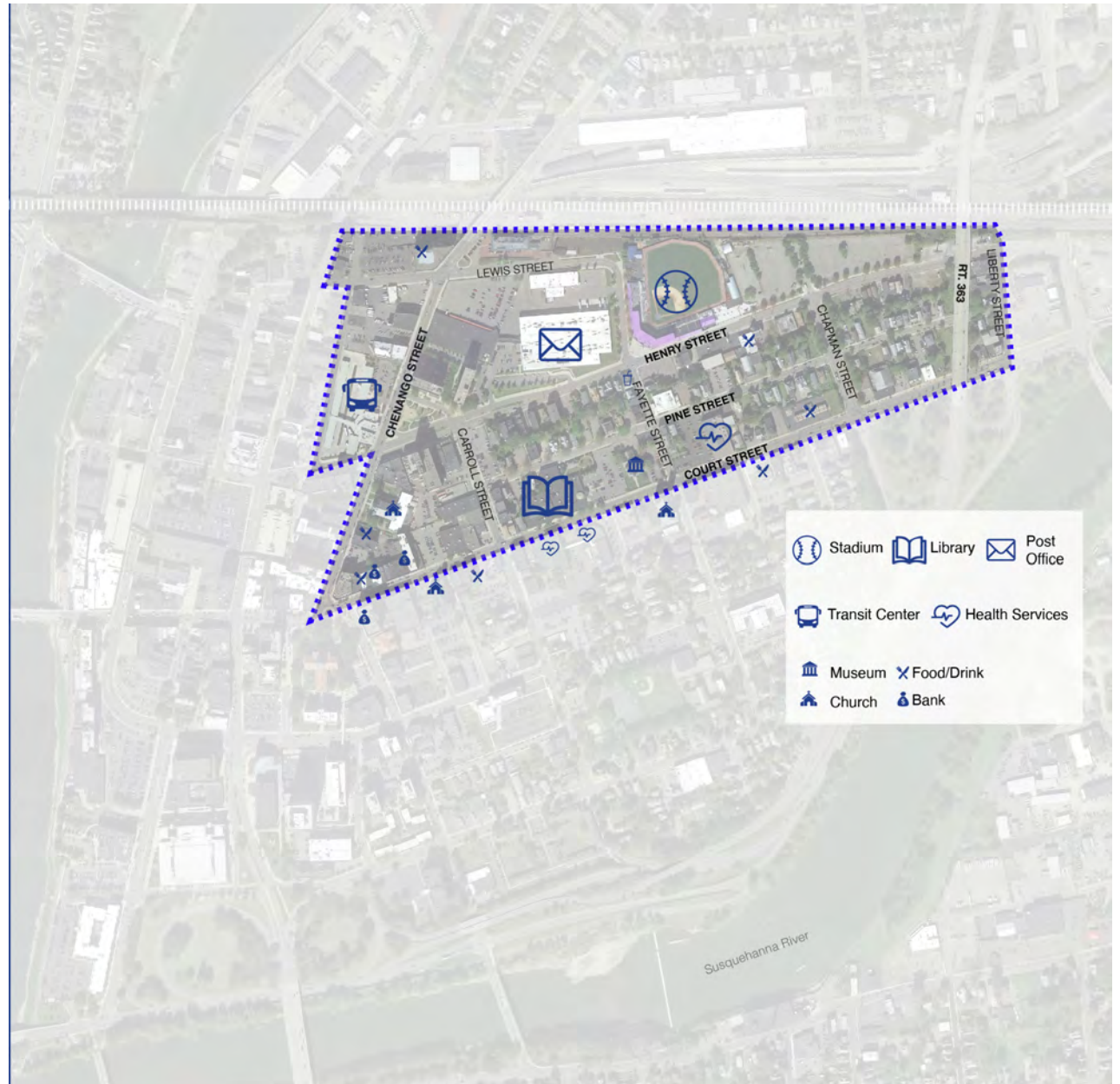
This section of the report is an inventory and assessment of the existing conditions within the study area for the Stadium District Master Plan.

3.1. Assets

Public and Civic Destinations

The following is a partial listing of the assets in the Stadium District that can be supported and enhanced through the Master Plan.

- **Mirabito Stadium:** The stadium is home to the Binghamton Rumble Ponies and part of the Northeast Double-A league. The stadium is owned by the City of Binghamton and opened April 1992 with a seating capacity of 6,012 fans. The stadium is named for Mirabito Energy Products, a local business, and was given the name in 2021. Approximately 120 games are played by the team each year, half of them home games
- **United States Post Office:** The Post Office provides counter service and mailboxes and is a local sorting facility as well. The building was constructed in 1968.
- **Broome County Public Library:** The library is the single most visited location in Broome County. In addition to reading materials, the provides community services including public computers, children’s services, classes, club meetings, crafting, and public meeting space.
- **The Binghamton Loyal Order of Moose: Lodge #1013** has 570+ Members, including the Auxiliary & Moose Riders Club. The Lodge donates to local organizations and participates in fundraisers.



Public destinations in the district serve a wide public; these include Mirabito Stadium, Broome County Public Library, the US Post Office, the Transportation Center, and a number of dining and commercial locations.

- The Broome County Historical Society: The Society is an archive of local history and hosts history related programs.
- Phelps Mansion Museum: Named after its original owner, Sherman David Phelps, was constructed was completed in 1871 and operates as a historic house museum.
- St. Mary of the Assumption and the Church of St. Paul Catholic Church: St. Mary's is a Catholic church offering regular masses and is part of the Roman Catholic Diocese of Syracuse.
- Pine Street Community Garden: located at the corner of Pine and Chapman Streets, the garden is a resource for local residents to have garden plots.

Human Services

The following human services providers are located within the District:

Binghamton VA Health Clinic: The outpatient clinic provides primary care and specialty health services, including mental health care, routine and urgent care appointments.

Businesses

Given the mixed commercial and residential nature of the district, there are a variety of businesses within the SDMP project area. A street-by-street summary is provided here:

- Lewis Street: This is a primarily commercial street. Beginning at Prospect Ave, there is an automotive garage at the Auto Zone, with a mixed-use building called the Art Building behind it on the spur of Prospect Ave which hosts artist studios, a barber shop called Bespoke Barbers, professional offices, and a yoga studio called Vishnu's Couch. The Kilmer Building farther down the street has several commercial uses, with the Goldsmith jewelry store and Remlik's restaurant on



There are many community assets within the district, including its historic architecture, human services, residential neighborhoods, and public destinations.

the ground floor, and professional offices in the upper levels. A U-Haul moving and storage location is located across the street. Past the intersection with Chenango Street, the renovated Lackawanna Train Station building has a number of professional office spaces and the Scoopy Doo ice cream shop in a satellite building.

- **Henry Street:** This is a mixed-use commercial and residential street. Starting at the intersection of Henry St. and Prospect Ave., there are a number of professional offices before reaching the intersection with Chenango Street, where the DMV offices, a diner in the Transit Station, the Transit Station itself, and a number of small retail and commercial storefronts are located. Between Carroll and Fayette Street the primary business is the US Post Office. Between Fayette and Chapman Streets there are several dining, bar, and take-out options at Amici Pizzeria, Mad Monks tavern, and DiRienzo Bakery. Between Chapman and Liberty Streets, there are buildings used as storage as well as the Moose Lodge. There are a number of vacant or underutilized commercial properties on Henry Street.
- **Pine Street:** This is a primarily residential street, except for the intersection with Fayette Street where there is a cluster of commercial land uses. The Red Barn Technology Group professional offices are there, and there are vacant storefronts in a former restaurant and barbershop location.
- **Court Street:** This is a primarily commercial street. Beginning at the intersection with Chenango Street, there are a number of professional offices, shops, and dining locations between that intersection and Carroll Street. There are several vacant or underutilized ground level storefronts at the intersection of Court and Carroll Street. Between Carroll and Fayette Streets there are cultural destinations at the Broome County Public Library and the Phelps Mansion Museum, and healthcare services and industry at the Association for Vision Rehabilitation and Employment. Between Fayette and Chapman Streets, there are healthcare services at the Veterans Administration Clinic, fast food and gas at the Mirabito Gas Station, Angle Market, and Court Street Beer Depot. The new Binghamton Fire Station will be located at the intersection of Chapman and Court Streets.
- **Liberty Street:** This is a mixed residential, commercial, and industrial street, with a volunteer ambulance emergency squad location as well as an industrial lot.
- **Chenango Street:** This is a primarily mixed-use street. Between Lewis and Henry Streets, there is a restaurant, Little Venice; other businesses at the intersections were described previously. Between Henry and Court Street, there are a number of vacant commercial properties and underutilized commercial spaces at the ground level. On this block there are professional offices, cafes, a salon, and clothing boutique.



Businesses surrounding the Stadium cater to families and young people.

Open Space and Publicly Owned Land

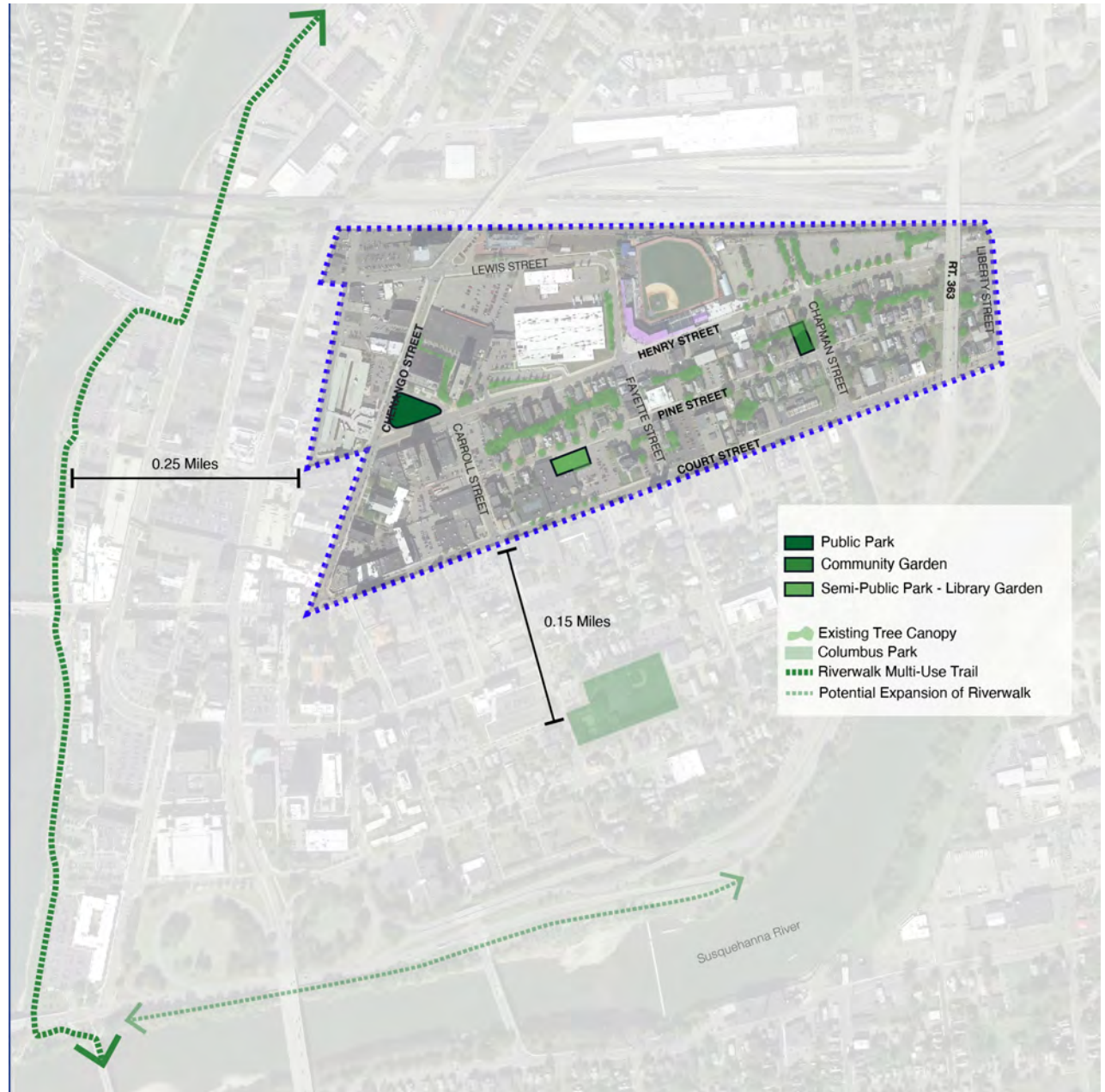
Narrative – description of open spaces, facilities, identification of any lacking open space types/ services. A good proportion of land is publicly owned. City streets and sidewalks are public zones. There are several unique open spaces within District. These open spaces and trails create the potential for enhanced connectivity.

Public Transportation

The Greater Binghamton Transportation Center is located at the western edge of the project area between Chenango and Prospect Streets. Local transit buses as well as regional buses, including Coach USA, Greyhound, Megabus, OurBus, and Trailways utilize the location as a transit hub. The facility also offers an indoor waiting area, vending machines, a gift shop and public restrooms.



The VINES community garden on Pine St. and the nearby Columbus Park are open space destinations.



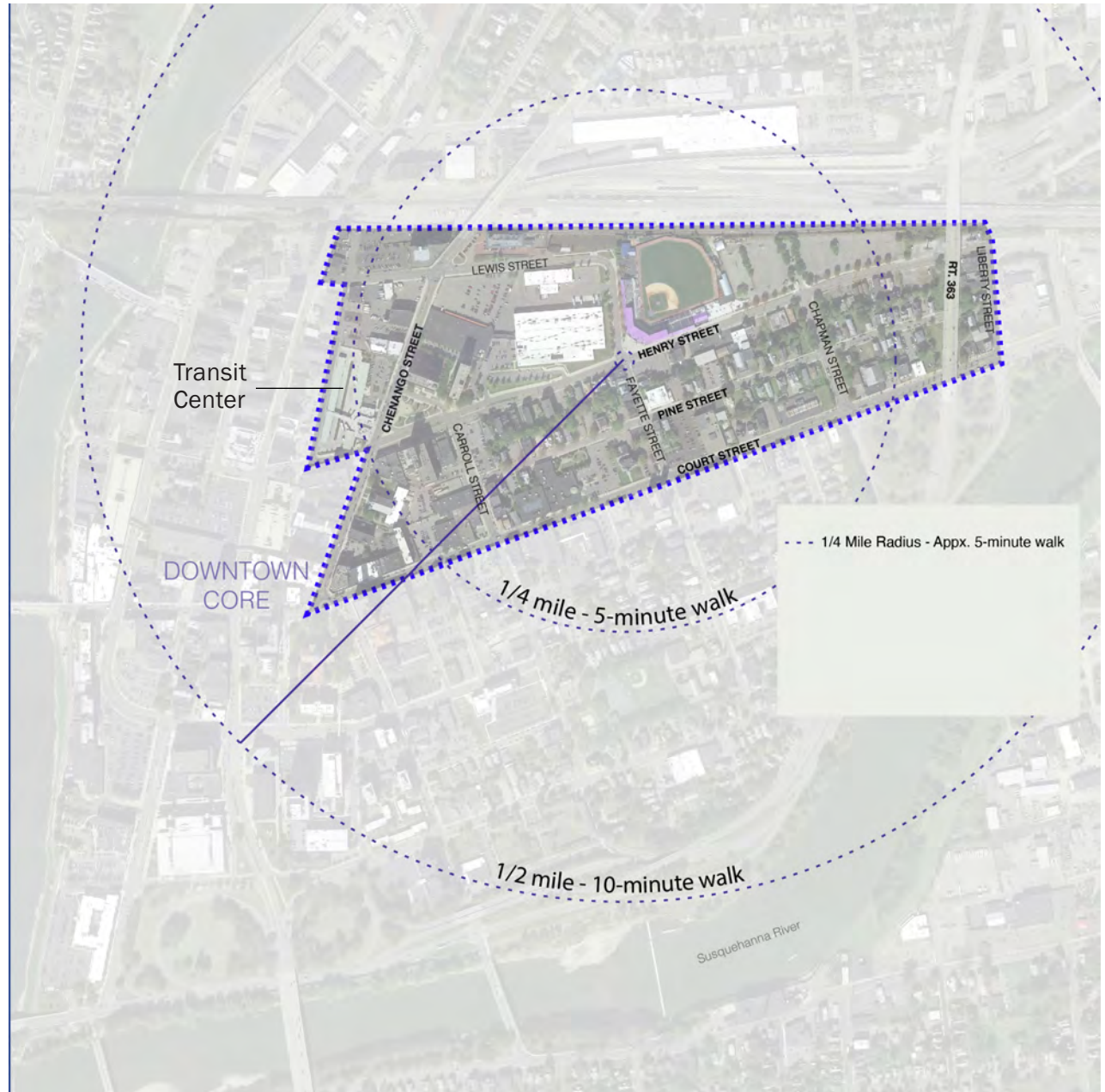
There is ample opportunity to connect to nearby public open spaces, including the Two Rivers Greenway and Columbus Park, as well as for a more robust urban tree canopy.

Walkability

The Stadium District is in easy walking distance to downtown core. The center of the district is a ¼ to ½ mile walk to many destinations both within the district and from the nearby downtown core. The Two Rivers Greenway is approximately ¼ mile west from the edge of the district and the potential future trail connection along the Susquehanna River is 1/3 of a mile south from the district. The trail connects to many other nearby communities.



The Transit Center bus terminal serves as a gateway for regional and local bus passengers, and incorporates the historic Greyhound bus station building.



The district is at a scale that is easily walkable and within easy walking distance to the downtown core. Enhancing the pedestrian experience is an opportunity to better connect the district with the rest of downtown.

3.2 Challenges and Opportunities

Streetscapes and Connectivity

The District is within easy walking distance to the downtown core, however, due to changes in the physical environment that occur between the downtown core and the district. Streets serve as important public spaces as well as circulation routes for pedestrians, bikes, and vehicles. The Stadium District's primary streets run east-to-west and their character varies based on their scale as well as the surrounding land uses, ranging from commercial/ light industrial to mixed use and residential. The pedestrian experience of the streets is affected by these land uses, including whether there are active and attractive ground-floor uses of commercial and mixed-use buildings, as well as general maintenance. There is a significant amount of surface parking in the district, which further contributes to a sense that the pedestrian experience is not prioritized.

Several streets in the District are oversized, due to planning efforts during the Urban Renewal period. Provision for accessibility is incomplete and not all of the Stadium District is traversable by a person with physical impairments. Oversized streets and lack of accessibility features lead to uncomfortable and unsafe pedestrian experiences. There are several streets in the district that do not have any street trees, which contributes to the perceived lack of the human scale, as well as lack of shade. The streetscape could feel more comfortable, friendly, accessible, and beautiful.

There are many residents who do not have cars, and use the streets to walk and/or wait for the bus to get around for their daily needs. The Transportation Center is a hub for local buses as well as regional buses, and people gather there to get on or off the bus or to transfer. There are no formal bike routes in the District, and while bikes are used there is opportunity for improving the clarity of bike routes. The multi-use Two Rivers Greenway is located a few blocks to the west of the District, but clear connections between the district and this bike- and walkway are lacking.



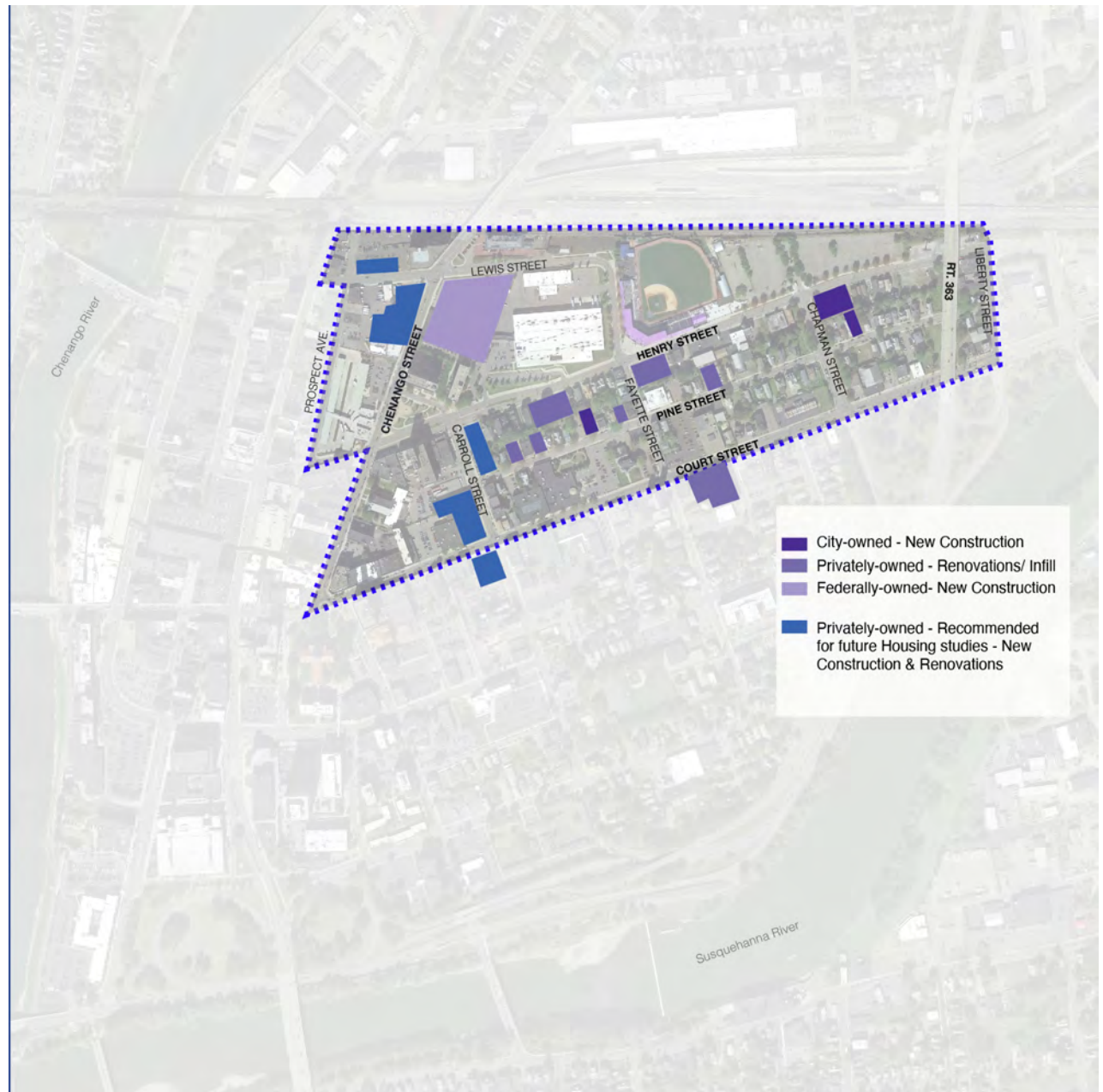
There are a number of pedestrian crossing locations that could be shortened and enhanced in the district.

Housing

There are several different types of housing currently within the District, including rental apartments in houses or in larger mixed-use buildings as well as rental houses. There is a variety of supportive housing within the District, including affordable elderly, handicapped, or disabled housing at 100 and 110 Chenango Street and homeless veterans housing at 27 Pine Street. There is a concentration of supportive housing within the downtown area, and part of this plan, additional supportive housing in this area is not recommended. Instead, there are opportunities for more affordable, moderate-income, and some market-rate housing options, as well as additional housing types including more owner-occupied or rental single-family, townhouse, duplex, condos, and apartment units in mixed-use buildings.

There has been a trend within the past several decades of demolishing what were once single-family homes that have not been maintained. This has decreased the available housing stock in the district and has tended to result in additional surface parking. In the best interests of the district, this trend should not be allowed to continue.

There are some homes that are owner-occupied, particularly on Pine Street, but this percentage has decreased significantly over the past several decades. Owner-occupied properties tend to be well-maintained. There are several properties where absentee landlords are not maintaining their properties up to code or investing in repairs or aesthetic improvements. Several rental properties are well-maintained and show an invested community. Some student housing has started to move into the district.



Additional housing for affordable, moderate-income, and some market-rate demographics, and in a number of housing types including owner-occupied and rental units, is a tremendous opportunity for the district.

Streets and Traffic

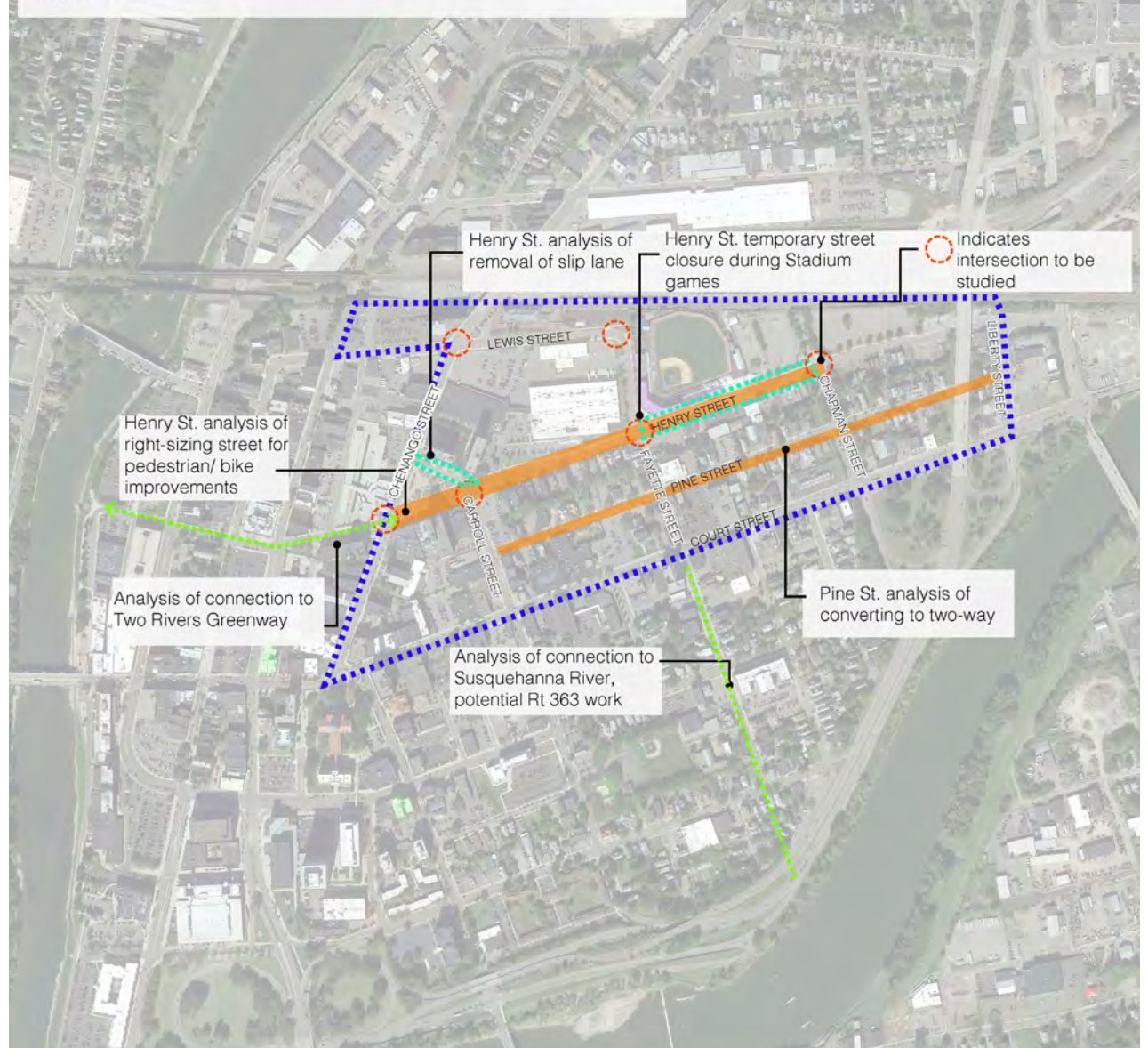
A traffic analysis was undertaken by GTS Associates. The study parameters and conclusions are summarized below. The full report is included in the appendices.

The traffic analysis of the existing traffic operations was needed to understand how traffic flow currently functions and determine if there is potential roadway space available to be utilized for the enhancement of the streetscape without sacrificing traffic flow while improving safety. Several types of potential improvements are under consideration. These include sidewalk dining, seating, complete streets, pedestrian and bicycle amenities, and green infrastructure practices. Traffic counts were taken for a typical weekday evening and weekday game day. The game day traffic period is later in the evening and does not overlap with typical evening peak. The study area was limited in scope to a focus on Henry Street from Chenango St. to Chapman St. with emphasis on several nearby intersections. Ten intersections within the district were analyzed for their current traffic and configuration. The intersections' geometry and traffic signals were reviewed. Street width was measured, and on-street parking was inventoried.

Five potential interventions were studied in detail.

- A “Road Diet” for narrowing the travel lanes of Henry Street
- The temporary closure of Henry Street between Fayette and Chapman Streets during Rumble Ponies game days.
- The directing of traffic to Chapman Street as the main route to the stadium during temporary closures.
- The potential removal of the one-way slip

Stadium District Master Plan
Traffic Analysis Scope of Services - Graphic
Prepared by Whitham Planning Design Landscape Architects
August 10, 2021



The traffic analysis undertaken for this report was focused on several key streets within the district. Many of the streets within the district are oversized for the amount of traffic that they handle and could be used otherwise.

turning lane from Chenango Street on to Henry Street.

- Converting Pine Street to two-way

Study Findings:

- Traffic is not a limiting factor for the potential enhancements under consideration. Traffic flows throughout the study area are low and meet the criteria for providing a desired level of service. None of the potential changes affect service.
- Henry Street is excessively wide (70-80 feet) for the amount of traffic it carries. The study describes Henry as “significantly overbuilt.” Turning lanes are not necessary and removing them will not affect traffic flows.
- Reducing Henry Street to two 12’ wide travel lanes will accommodate traffic flows.
- The study concluded “Atypical of many corridors, Henry Street has significant excess traffic capacity which makes it very well suited to be revitalized with a complete streets approach to promote all modes of transportation.”
- The temporary closure of Henry Street between Fayette and Chapman Streets during Rumble Ponies game days will not substantially affect traffic flows. This is particularly true if undertaken peak evening times, approximately 5:00 pm.
- Localized signage to notify drivers of the temporary closure is recommended.
- Re-directing traffic to Chapman Street on game days will not substantially improve traffic flows and is unnecessary.
- The removal of the one-way slip turning lane from Chenango Street on to Henry Street is possible and will not affect traffic flows or turning movements if the intersection is reconfigured. Very few vehicles utilize the slip-lane. Benefits include that Centennial Park would not be a traffic island and would be more connected to 100 Chenango Place and Metro Plaza Apartments.
- The study does recommend that the right turn lane from Henry Street onto Chenango and refuge island remain. The pedestrian crossing would still be somewhat wide but improved.
- Converting Pine Street to two-way will not substantially improve traffic flows and is unnecessary. It would remove on-street parking for residents. This option is not recommended.

Safety

One of the most important factors in a vibrant and healthy neighborhood is that residents feel safe. Repeatedly, residents, business owners, housing providers, and community groups have stated that this is not a safe neighborhood. Improving safety, perceived or real, will be one of the most important factors in the success of the Maste Plan.

Lighting: There is a perceived lack of safety due not enough lighting. Residents and busines owners both described areas in the district where there is no or inadequate lighting. Public space

lighting contributes to pedestrians' feeling of safety in urban areas after natural dark. Studies are being undertaken by psychologists to understand why at an empirical level, but at an anecdotal level, what we have heard is that many people who live and work in the District limit walking at nighttime in the area. This is not conducive to the safe, vibrant atmosphere that is the goal of this plan.

Pedestrian Crossings: Approximately 300 pedestrians are killed and 15,000 are injured by motor vehicles each year on New York State's roadways, and more than 3,000 pedestrians are admitted to the hospital annually. Traffic is generally light in the District but as noted in the traffic analysis, streets are wider than necessary, leading to longer crossing distances for pedestrians. Some but not all intersections have crosswalks. No walk/don't walk pylons were observed. Wide car centric intersections could be made safer. ADA dropped curbs are only partially implemented.

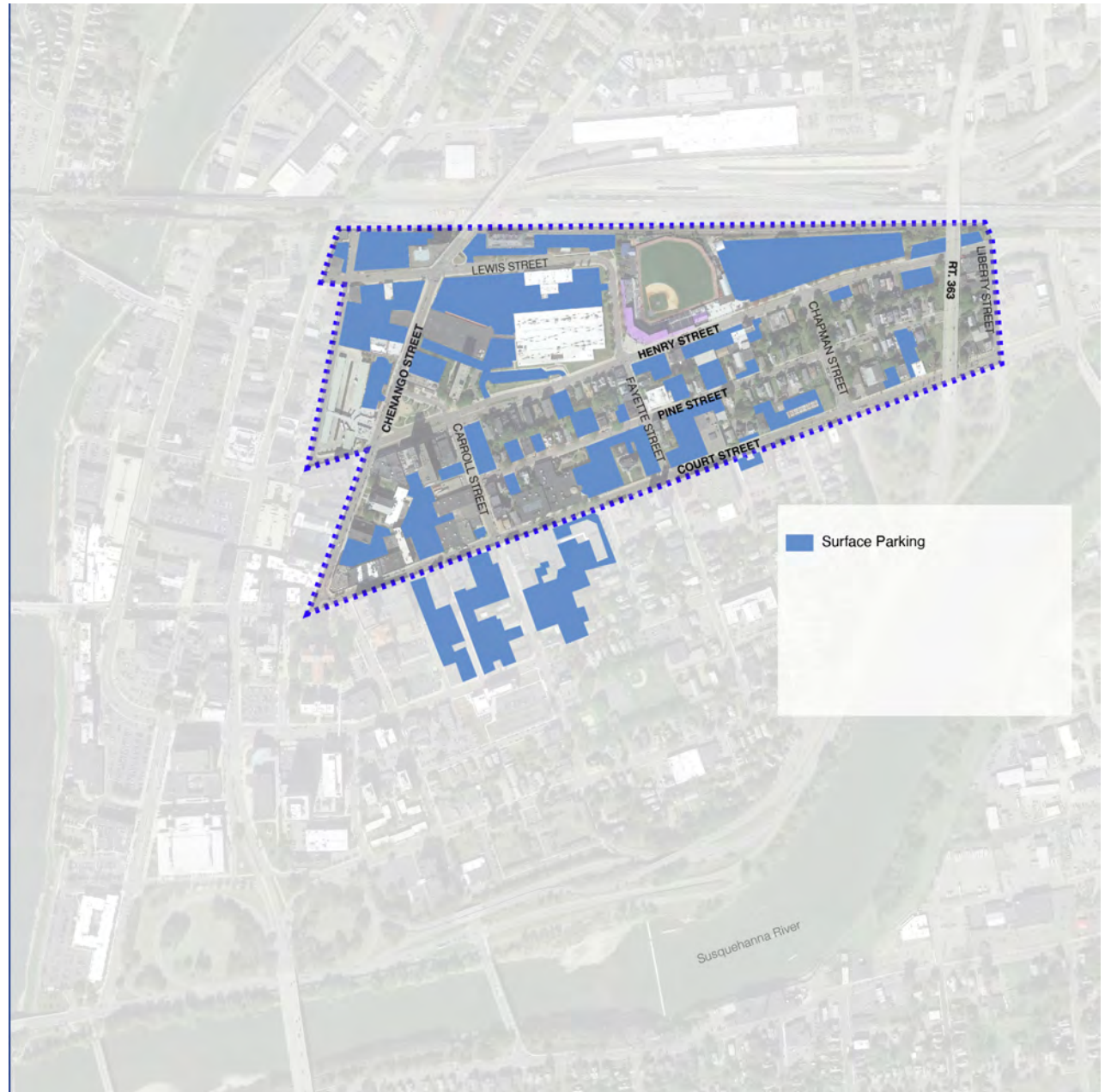
Surface Parking

As depicted in the adjacent graphic, there is inadequate surface parking in some areas and while in other areas parking areas are largely empty. On-street parking is well used.

The large amount of surface parking creates a discontinuity for pedestrians. Having a street wall of interesting and human scaled buildings helps to provide a pleasant pedestrian experience. The lack of buildings leaves pedestrian feeling exposed.

Undeveloped Parcels

The district was once nearly all developed land. Some uses, such as the railway, have left the Stadium District. This allowed the construction of the Stadium. A large area of buildings was demolished for the construction of the post office. Large and frequently unused parking



Significant amounts of surface parking within the district contribute to a lack of cohesion between this area and the downtown core, and fragment the experience of the district's streets and neighborhoods.

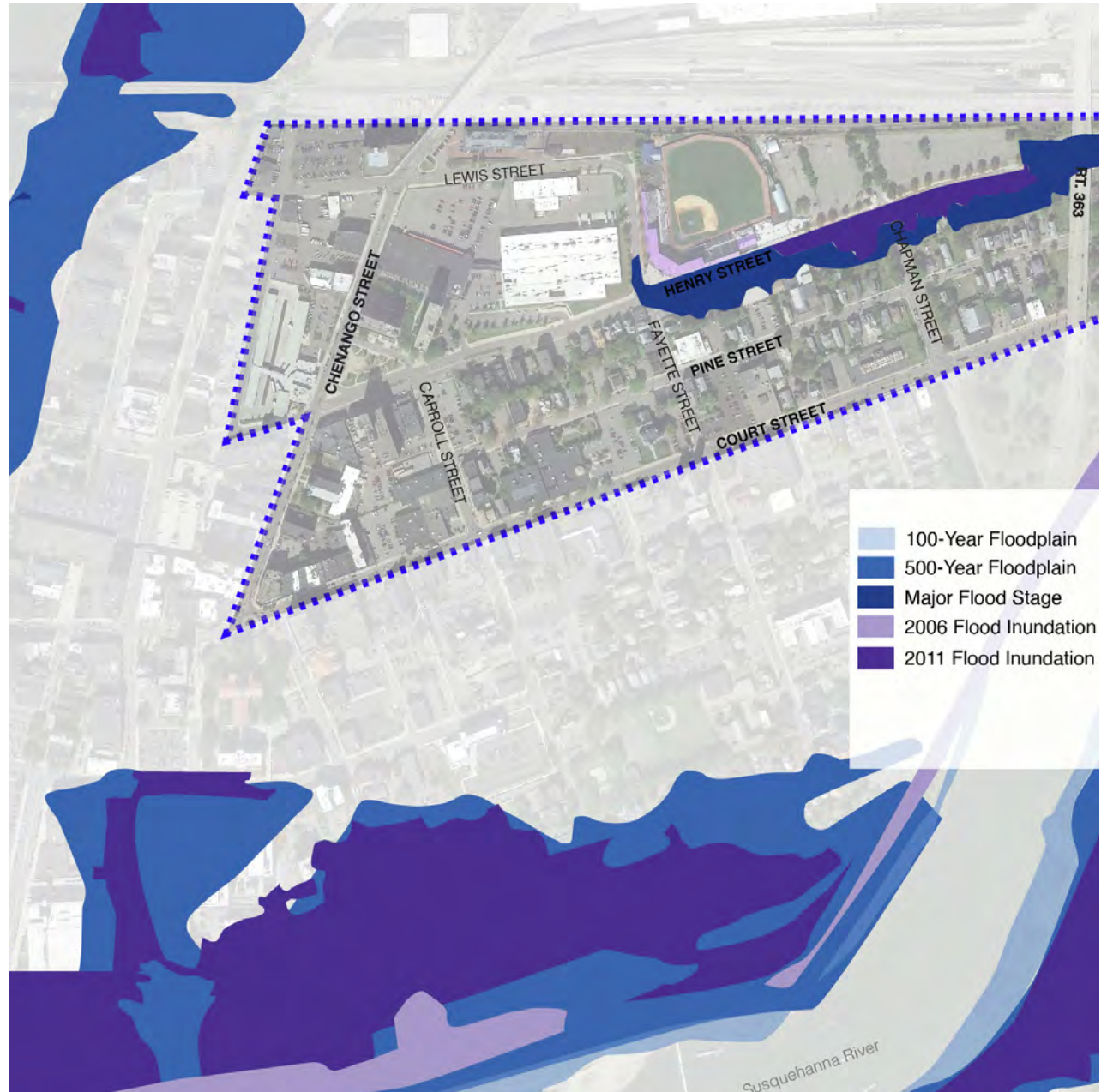
was developed in the place of some of these buildings. In other cases, neglect has resulted in buildings that are too deteriorated for renovation and they have been demolished. Some of these parcels are green spaces but many are paved as parking lots that again, are often empty of cars.

Sustainability

The most often quoted definition of sustainability comes from the UN World Commission on Environment and Development: “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

There are few sustainable measures in place in the Stadium District currently. Past and recent development has occurred in a conventional way without the requirements for sustainable practices. According to the First Street Foundation, Binghamton is the #6 most vulnerable municipality, within the #4 most vulnerable county in the state of New York. Development in floodplains and vulnerable watersheds contributes to local flooding as well as downstream flooding.

The Environmental Protection Agency and FEMA have commissioned several reports and studies related to flood mitigation. One in particular from 2015 looked at flood mitigation and green infrastructure (GI). The study indicates that up to p. 9.1 his study indicates that the annual savings to the nation in terms of flood losses avoided in 2040 for expanding stormwater retention practices range from \$63 to \$136 million (2011 dollars). Assuming that the benefits start at zero in 2020 and a discount rate of 3%, the corresponding present value of the stream of benefits in the following 20 years ranges from \$0.4 and \$1 billion (2011 dollars). Averaged over the 20 years between 2020 and 2040, the benefits range between \$30 and \$65 million per year”, according to recent EPA studies.



The district is not within the currently defined floodplains, however, some areas have been inundated during storm events. There are opportunities for green infrastructure and stormwater mitigation within the district.

Chapter 4

Public Outreach

Chapter 4 Public Outreach

4.1 Public Outreach Process

The public outreach process has been an iterative series of individual stakeholder meetings and phone calls as well as broad public input obtained via an online public survey and public meetings. The project team used several different means to reach members of the public as well as project stakeholders during the Master Planning process. A list of project stakeholders was provided to the design team by the City. Stakeholders were sent emails, called via phone, and sent physical postcards to their mailing addresses during the outreach process.

An online survey was developed. Press releases announcing the online survey and public meeting were publicized via media outlets and sent via email by the City. Public notices for the SEQR public hearing were publicized by the City. Meeting agendas and materials for public meetings, including City Council meetings, were posted on the City’s website. In-person and virtual meetings were held following State-directed protocol as it relates to the ongoing Covid-19 pandemic. Participants were informed that the goals of the meeting included:

- To inform the public of the process to date
- To discuss the feedback heard to date
- To present ideas and draft plans in their current form
- To solicit public input on current plans in order to shape the Master Plan recommendations to serve the needs of the local residents as well as visitors to the Stadium District.

4.2 Online Survey

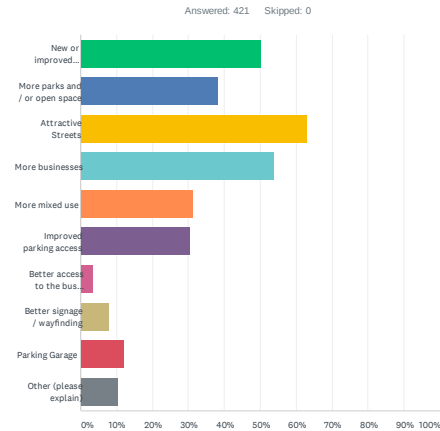
Survey Method In the summer of 2021, the public was asked to give their feedback about the Stadium District. A range of questions was asked related to what people do when they visit and what they would like to see as improvements in the district. Questions were posted online and publicized in online media, the press, and at Rumble Ponied games.

Survey Results: 400 persons responded to the online survey. The following is a summary of the information gleaned from the survey data. For reference, bar charts that represent the full survey results for each question are included in the Appendix.

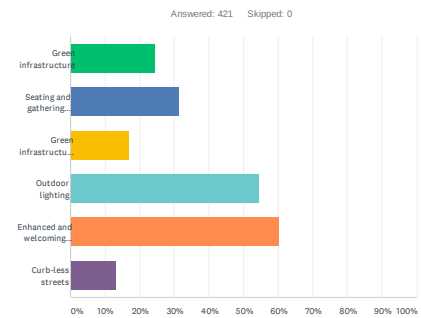
Trends

- The two highest responding groups were younger and middle-aged adults.
- Respondents most often visit the district monthly or weekly, typically in the evening.
- Destinations that respondents most often visit are the Mirabito Stadium, followed by the Post Office and Broome County Library; people going to the stadium or library go monthly or yearly.
- Respondents’ priorities:
 - More destinations (food, drink) around Stadium
 - Add more destinations, easier connections to the area around Stadium
 - Additional programs such as community festivals, live music, food events
 - Better streetscape for pedestrians

Q22 As part of the long-term vision for this area, which of the following would you prioritize to be built? Pick the top 3.



Q21 What streetscape improvements would you like to see around the district? Please choose 2 of your favorites from the images below.



ANSWER CHOICES	RESPONSES
Green infrastructure	24.23% 102
Seating and gathering spaces	31.12% 131
Green infrastructure with wider sidewalks	16.86% 71
Outdoor lighting	54.39% 229
Enhanced and welcoming storefronts	60.33% 254
Curb-less streets	13.06% 55
Total Respondents: 421	

Public survey input solicited over 400 responses and were helpful indications of public sentiment about existing assets, opportunities, and potential changes in the district.

- Enhance the sense of safety, comfort, welcome
- Improved maintenance
- Housing and development opportunities
- Improved parking was not a priority compared with other options

Specific Topics: Since the Master Plan study has specific areas of study, questions were composed to try to assess users' activities related to the Stadium District and their perceptions related to specific topics.

Streetscapes

- Respondents mostly get around the area by car, and over 50% of respondents report getting around the area on foot
- Respondents would walk more in the district with better lighting, welcoming storefronts, and wider sidewalks, and more street trees
- The project team noted a general trend in the long-format written responses that many respondents have a perception that the District is not safe for walking.

Transit

- Most respondents do not visit the bus station, but approximately 1/4 of respondents go there once a year. Most respondents use the bus station for regional trips; 1/4 of respondents use the buses for metro area trips.
- Over 90% of respondents would use passenger rail if it came to Binghamton
- The project team notes a general trend in the long-format written responses that among those who use the bus station, many felt that improved maintenance and improvements to the surrounding neighborhood were priorities.

Mirabito Stadium / Binghamton Rumble Ponies

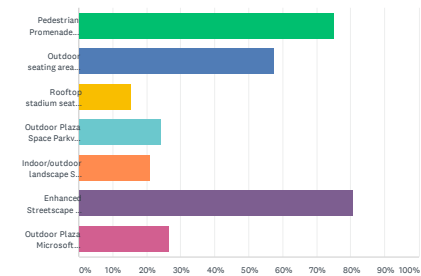
- Respondents most often visit Mirabito Stadium to go to Rumble Ponies games
- When provided with graphic examples of stadiums from around the country, respondents would most like to see an enhanced streetscape for pedestrian use, followed by a pedestrian promenade and an outdoor dining area in and around the Mirabito stadium.

District Improvements

- When asked which streets in the district respondents liked best, the most popular response was Court St., followed by Henry and Lewis St.
- When asked which streets could be improved in the district, the two most popular answers were Henry St. and Pine St., followed by Carroll St. and Fayette St.
- Most respondents felt that these areas could be improved with better lighting and safer pedestrian connections

Q11 What improvements would you like to see at the Rumble Ponies Stadium? Please choose the top 3 from the images below.

Answered: 421 Skipped: 0



ANSWER CHOICES	RESPONSES
Pedestrian Promenade Oriole Park at Camden Yards, Eutaw Street - Baltimore, MD	75.06% 316
Outdoor seating area Wrigleyville 1, Wrigley Field - Chicago, IL	57.24% 241
Rooftop stadium seating Wrigleyville 2, Wrigley Field - Chicago, IL	15.44% 65
Outdoor Plaza Space Parkview Field - Fort Wayne, IN	23.99% 101
Indoor/outdoor landscape Soft Stadium - Inglewood, CA	20.90% 88
Enhanced Streetscape for pedestrian use Fenway Park - Boston, MA	80.76% 340
Outdoor Plaza Microsoft Square at Nokia Plaza - Los Angeles, CA	26.60% 112
Total Respondents: 421	

Survey respondents were interested in streetscape, lighting, and maintenance improvements, as well as adding more destinations around the stadium and housing opportunities.

The Character of New Development

- When provided with graphics to choose from, respondents liked the commercial buildings with outdoor seating outside, mixed-use buildings with awnings and green areas, and traditional brick townhouses with front stoops when considering new development in the area.

When asked if they could change anything about the district

- More dining, bars
- Increase mixed-use
- Improved roadways, parking
- Increased attractions
- Pedestrian improvements

4.3 The Public Meeting

A meeting to solicit public input was held on October 7th at the Broome County Public Library located at 185 Court St. in Binghamton. A presentation was given that provided an in-depth overview of the project team's approach to the master planning process and provided opportunities for members of the public to help prioritize areas for improvements to the district. 29 members of the public attended. An overall group question and answer period were followed by small group and one-on-one discussion. Large group comments were recorded on post-it notes which were attached to the two presentation panels brought to the meeting.

General Takeaways

- There is overall support for vision, but this plan should account for the needs of people already living in the Stadium District
- New projects and services should provide for people of more limited means
- Housing, in general, was one of the biggest concerns, both in the District and the city in general.
- There is interest in changes to the District, so long as resident concerns are taken into account
- Affordable, high-quality housing in a variety of types is needed in the District.
- Walkability is a relevant and important lens through which to look at the District.
- Services such as drug stores within walking distance are critical to District residents.
- There is a need for better access to fresh food within the District.
- The potential displacement of current residents by new development is a concern, whether as a direct or indirect result of improvements to the District.
- Pragmatic concerns such as maintenance, City staffing, and material durability should be considered.
- This plan and the projects within the plan should be self-sustaining.
- Public input, outreach, and transparency should be ongoing as these projects are realized.



Participants during the public input meeting gave meaningful insight to draft plans and expressed what they felt should be prioritized in the plan.

4.4 Interviews with Commercial Stakeholders

The WPD team and the City met with a number of commercial property owners in the District to discuss their experience owning businesses in the area and to hear their visions for the future of the District. The team also met with area housing developers and agencies, including affordable, moderate-income, and market-rate housing agencies in addition to supportive housing groups to envision the future of housing within the District.

4.5. How Public Outreach is Incorporated into the Master Plan Proposals

Insights from the public survey, stakeholder meetings, and the public input meeting helped the project team prioritize areas for improvement. Comments from the public clarified which elements of the Stadium District either enhanced or detracted from their experience and perception of living and working in the neighborhood. A common theme from initial public input was the perception of safety and human comfort, as well as a higher standard of care, should be given to private and public properties in the District.

The Master Plan's proposed improvements to streetscapes to enhance walkability between destination addresses perceived and real safety concerns while making the streets more attractive and more clearly connected to the downtown core.

- The Master Plan's proposed improvements to private properties are centered on priority corridors and nodes at intersections that link the District to the downtown core and serve as gateways. These improvements have the goal of improving the aesthetics of existing properties and encouraging the development

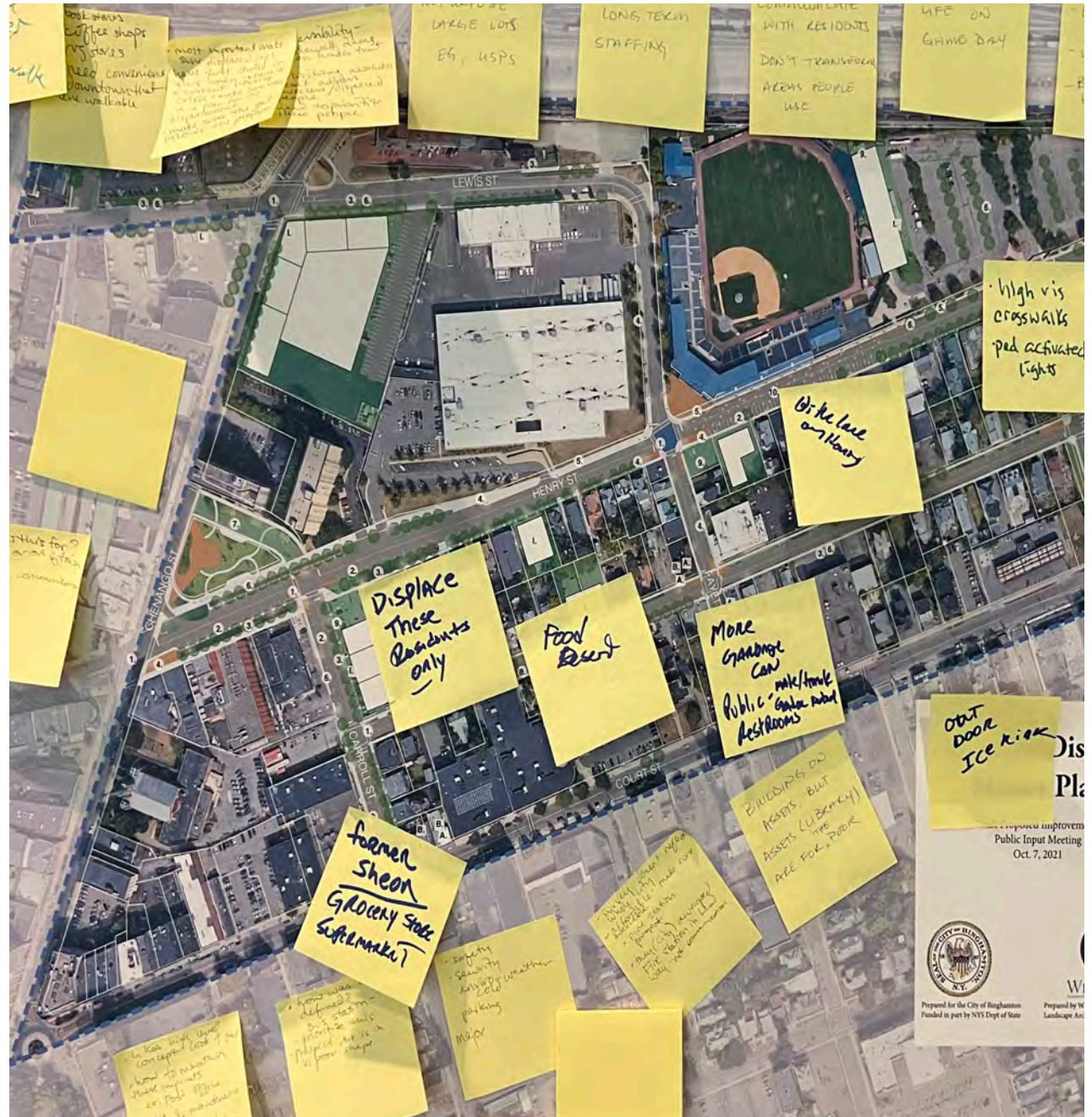


Above: Logos from several of the project stakeholders.

Below: A copy of the postcard that was sent to addresses within the district ahead of the public input meeting.

of underutilized properties while encouraging business incubation.

- A conceptual plan was developed with initial responses from the design team to insights from the survey. This plan was discussed with stakeholders and during the public input meeting and revised according to the conversation.
- Elements of the plan that were prioritized after the public input meeting:
- Henry Street should be largely mixed-use and commercial.
- The remainder of the neighborhood should be mostly residential with institutional and commercial nodes.
- Further attention is paid in the housing portion of the Plan to affordable and supportive housing needs;
- Further attention is paid to not displacing current residents from their homes as a result of any future projects;
- That public outreach, input, and information continued as elements of the SDMP are realized;
- That pragmatic concerns such as maintenance are prioritized in the plans;
- Consideration is given to ensure elements of the plan are self-sustaining and feasible in the long term so that they are continually maintained and/or staffed.
- The data from public outreach efforts, including survey data and notes from public meetings, can be utilized by the City during future funding applications and/or other initiatives to spur improvements to the District as guided by the Master Plan.



During the public input meeting, direct feedback was applied onto the plan itself. These ideas helped to refine the draft plans and informed further research, outreach, and design.



Chapter 5

Master Plan Proposals

Chapter 5 Master Plan Proposals

Enhancing Assets and Proposed Solutions to Challenges

5.1 The Design Process

A Master Plan design process follows some basic steps and based on public comments, an approach was developed which focuses on understanding what assets should be retained and enhanced. Or conversely, those that can be enhanced. Urban assets are key resources, often seen as part of critical infrastructure. They consist of physical elements (often natural or historic) in a city and are linked to quality of life. Assets in this report are seen as features that are working well for the public benefit, such as the Public Library. Private development, such as businesses and housing, are seen as important assets to the health of the district. Challenges are seen as those features that either do not exist in the Stadium District or features that exist but that could be enhanced with the recommendations in the Master Plan.

The basic steps in development of the Master Plan report and its recommendations are as follows:

- Gather information
- Prepare diagrams and maps
- Analyze the information
- Receive public input
- Develop ideas and prepare draft proposals
- Revise Master Plan proposals based on the City and public input
- Prepare drawings and a report that reflect needs of the community

The following are existing assets that identified through this process that should be retained and enhanced.

5.2. Enhancing Assets

Public Destinations

Goals: Enhance connections between destinations and support destinations in reaching more people through their programming

Recommendations: Add complementary uses to support existing destinations

Example: Additional commercial activity, potentially with baseball theme, near Stadium

Support innovative programming at the Public Library

Example: Community cook-outs and events utilizing existing open green space and parking area

Potential Projects

Mirabito Stadium Game Day enhancements

- Henry Street: Partial Closure During Home Games
- Festival atmosphere
- Family friendly attractions



Ideas to enhance activity around the Stadium include temporary closures of this block of Henry St. for food truck rodeos and community festivals, and renovating the Stadium's ground level exterior wall to allow for commercial activity to face the street as well as the concourse.

- Food truck rodeo
- Outdoor dining at existing businesses

Stadium Improvements

- Henry St. - Renovate block wall for street-facing retail, food vendors, add new public carousel
- Fayette St. - Outfield seating
- Parking lot solar power or green infrastructure project

Broome County Public Library

- Parking lot green infrastructure project

United State Post Office

- Parking lot green infrastructure project

Businesses

Goals:

Retain existing businesses and attract businesses to Henry Street as a mixed-use corridor

Recommendations:

- Prioritize vacant or underutilized commercial properties and storefronts, especially those near public destinations, for new businesses.
- Prioritize new businesses near public destinations that would improve that immediate area
- Coordination with Koffman Incubator Center to connect entrepreneurs with building and business owners within the District

Potential Projects

- Tax Incentives for new restaurants, businesses in SDMP (includes 164 Henry St., 161, 164, 200 Court St., 35 Pine St., 36 Pine St.), staff outreach
- Tax Incentives for fresh food access - part of redevelopment of 120 Chenango Street redevelopment



Upper two images: Two key 'nodes' to prioritize for commercial activity are Carroll / Court Street and Pine/ Fayette Street. Bottom image: Active storefronts on the ground level enliven the streetscape.

Open Spaces

Goals:

Provide open spaces for active and passive recreation for residents and visitors within and within proximity to district. Residents expressed the lack of green space as a concern to be addressed.

Recommendations:

- Enhance existing public spaces within the District
- Create new public spaces where possible, as part of streetscape and/or private development projects
- Enhance walkable connects to existing public spaces within proximity of the District, such as the Two Rivers Greenway and Columbus Park

Potential Projects

- Stadium Improvements on Henry St. - Public park between Stadium and Chapman St.
- Privately owned public space improvements at 45 Fayette St. - landscaping, maintenance
- Enhance safe connections to Centennial Plaza by removing the slip lane between the park and the properties at 110 and 100 Chenago Street
- Improve the amenities and layout of Centennial Plaza to serve as a more functional public space and park for residents within the district
- Pedestrian safety and streetscape amenity improvements on Carroll Street



Upper two images: Examples of regionally successful plazas at Clinton Square in Syracuse and Bailey Hall on Cornell campus, which could inspire open space improvements at Henry/Chenango Street and at the Stadium. Bottom image: Zoom in of Henry/Chenango.

Human Services

Goals:

- Support existing human services providers and the populations that they serve.

Recommendations:

The existing human services provided in the Stadium District are important. However, there are a number of services that are necessary for residents need that are currently unavailable in the District. Since many residents are lower income and do not own automobiles, having walkable neighborhood services would improve the quality of life for residents. The following are services that have been requested by residents and pointed out as needed by supportive housing providers.

- A walk-in clinic for non-urgent care
- Since the CVS pharmacy is closing, there will be no nearby pharmacy access in the District nor the entirety of the downtown.
- Mental health services are no longer offered since the relocation of facilities elsewhere.
- Addiction services for recovering addicts
- Rehabilitation counseling for registered sex offenders

5.3. Proposed Solutions to Challenges

Challenges are needs, features and services that are viewed as lacking in the Stadium District. Some of these are related to physical infrastructure, such as the extreme width of Henry St. or those in poor condition, such as some of the housing. In seeking potential recommendations to improve the features that are seen as needing improvement, walkability became an important lens through which recommendations for enhancements to the Stadium District could follow. Walkability has been the subject of many studies and there is data that shows walkable communities are more desirable places for people to live, work, and play. We believe that this lens is a useful tool to utilize in making recommendations for the district.

Why Walkability

The following description of walkability and its benefits relies heavily on Jeff Speck's book "WALKABLE CITY: How Downtown Can Save America, One Step at a Time." He describes the three important issues of wealth, health and sustainability as among the principal arguments for walkability.

- What kind of city will help us thrive economically?
- What kind of city will keep our citizens not just safe but healthy?
- What kind of city will be sustainable for generations to come?

America Walks is a website devoted to disseminating information on the benefits of walkability in American cities. Some of the benefits of walkability from America Walks.org are:

- Economic
 - Walkable streets encourage business activity
 - Walkability improves housing values.
 - Millennials are more likely to commute by biking, walking or public transportation.



Human services such as a walk-in health clinic, and ensuring that a pharmacy remains in downtown, are goals. Walkability for all ages allows people of many different backgrounds to live downtown,.

- Safety
 - Making roads safer for walkers helps make roads safer for everyone.
 - Older adults, people of color, and low-income communities are most vulnerable to pedestrian fatalities.
- Health
 - Less than 50% of youth and 24% of adults get enough physical activity.
 - Increased walking decreases risk of cardiovascular disease.
 - Walking is accessible and available
- Social Equity
 - Suburban development patterns disproportionately affect low income and communities of color.
 - Low-income households are more reliant on walking, biking and public transit.
- Environment
 - By driving less and walking more, pollution is reduced from motor vehicles, which reduces emissions and protects the environment
 - The transportation sector is the largest contributor to GHG emissions in the U.S, representing about a third of total greenhouse gas emissions
- Transportation
 - Walking is incredibly efficient. Nearly a third of all car trips taken in this country are a mile or less in length—the equivalent of a 20-minute walk.
 - Moving those trips out of cars and onto sidewalks would solve many of our transportation issues.

Jeff Speck is an experienced urban planner and writer on the subject of walkability. He has developed what he terms as the “General Theory of Walkability.” Speck believes that if cities get walkability right, wealth, health and sustainability follow. He describes the “everyday ‘fabric’ of a place as its streets, blocks and the buildings that tie them together.” The theory put forth by the author is that for in order for places to be truly walkable, they need to have more than good sidewalks. He suggests that four main conditions have to be satisfied.

- **Useful:** most aspects of daily life are located nearby and are organized in a way that makes sense for walking rather than driving
 - Put cars in their place
 - Mix uses
 - Get the parking right



Designing streets that are inviting, attractive, interesting, and safe benefits residents, visitors, and businesses. Above: A dynamic streetscape; bike lanes with bike share; multi-modal street.

- Let transit work
- **Safe:** the street is designed to favor pedestrians and keep them safe from cars; perceived safety includes other factors
 - Protect the pedestrian
 - Welcome bikes
 - Adequate lighting
- **Comfortable:** the buildings and the landscape shape spaces with human scale; street definition is present rather than wide open expanses, such as surface parking.
 - Shape the spaces with street level definition
 - Plant Trees
- **Interesting:** sidewalks are lined with unique buildings with friendly facades.
 - Street level facades present friendly places
 - Pick a focus. Not all streets will be as interesting as others. Make conscious choices about the size and location of walkable downtown cores.

The following are Master Plan proposals that recommend enhancements that can improve the district and improve the economic, social, and environmental health of the Stadium District.

Streetscapes, Connectivity and Enhancements to Walkability

Goals:

- Focus on Henry St. as the Commercial Street with mixed-use new development
- Keep existing residential streets single family or duplex homes
- Complete Streets: Accommodate pedestrian, bike, vehicular, and bus traffic on well-designed, attractive streets.
- Gateways and Wayfinding:
 - Unique, identifiable District entrance points



Street trees contribute to comfort and safety while enhancing urban environments. Streets can be designed to allow for many types of users.

- Design elements to enhance a sense of pedestrian scale
- Informative, interesting signage
- Creates a sense of place for the District
- Integrate green infrastructure into streetscape retrofit projects and as part of new and existing private developments. Green infrastructure is an approach to water management that protects, restores, or mimics the natural water cycle as an effective way to treat stormwater that also enhances community safety and quality of life. Green infrastructure can have a number of positive effects on urban environments, including:
 - A component of complete streets to separate pedestrians from cars
 - Allow stormwater to infiltrate and offset urban runoff from roofs, surface parking, and other impervious surfaces
 - Mitigate urban heat island effects
 - Decrease in impervious surfaces decreases downstream flooding
 - Enhance pedestrian and bike safety through traffic calming
 - Prioritize bike lanes, especially on Henry Street to connect to the Two Rivers Greenway
 - Size streets according to traffic demands
 - Improve pedestrian, bicycle, and transit connectivity and enhance connections to trails and bus routes
- Clear wayfinding for drivers, bicyclists, and pedestrians
- Recommendations:
 - Make street improvements per corridor within the district



Top: Wayfinding signage at pedestrian and grand scales; Middle: Street trees as seen in multimodal contexts and with pedestrian- and street lighting. Bottom: Green infrastructure integrated into streetscapes.

- High-quality, durable streetscape furnishings: benches, bike racks, dog stations, etc.
- Add street trees to this district and ensure their long-term health
- Enhance pedestrian, bike connections to open spaces within and near district

Potential Projects

- Lewis Street - intersection curb bumpouts, Street Trees, New Sidewalks, Wayfinding Signage, Lighting
- Henry St: Fayette to Liberty Street Narrowing, new curbs, bike lanes, green infrastructure
- Henry St: Chenango to Fayette Road Narrowing, new curbs, bike lanes, green infrastructure
- Henry St: Fayette to Liberty Pedestrian Ammenities: sidewalks, street trees, furnishings, green infrastructure, curb bumpouts
- Henry St: Chenango to Fayette Pedestrian Ammenities: sidewalks, street trees, furnishings, curb bumpouts
- Henry St. - Chenango to Liberty St - Lighting
- Henry St. - Chenango to Liberty St - Wayfinding, signage, furnishings (banners, waste receptacles, etc)
- Henry St. Underpass Improvements - suggestions by residents have included lighting and basketball courts.
- Henry Street @ Fayette Street - Stadium Plaza - green infrastructure, plantings, furnishings, lighting
- Henry Street @ Carroll Street / Centennial Plaza - Remove slip lane, add sidewalk, plantings
- Henry Street @ Chapman - Gateway feature to Stadium
- Henry Street Fayette to Liberty St- Street Trees
- Henry - Chenango to Fayette St - Street Trees
- Pine Street - Street Trees, New Sidewalks, Wayfinding Signage, Lighting
- Court Street- Intersection bump outs, Street Trees, New Sidewalks, Wayfinding Signage, Lighting
- Prospect Avenue - Henry St to railroad - Curb bumpouts, New sidewalks, Street trees
- Chenango Street - Henry to Lewis St - Street trees, Wayfinding, street furnishings
- Carroll Street - Henry to Court St- Street Trees, New Sidewalks, Wayfinding Signage, Lighting
- Fayette Street -Street Trees, New Sidewalks, Wayfinding Signage, Lighting
- Chapman Street - Henry to Court St - Decorative banners
- Chapman Street - Henry to Court St - Street trees



Top: Wayfinding signage; Middle: Raised intersections help calm traffic; Bottom: Bike parking along Henry Street could encourage connectivity to Two Rivers Greenway and on city streets.

Transportation and Traffic

Goals:

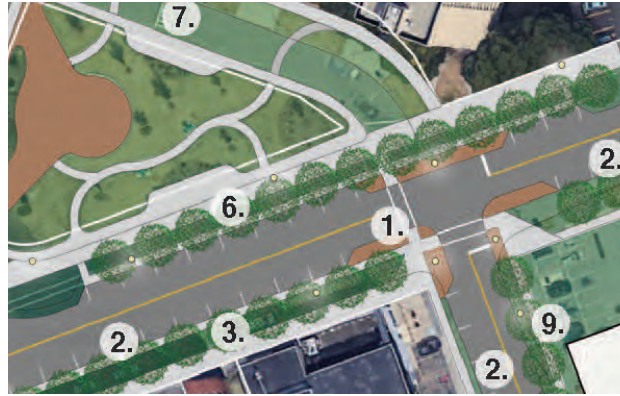
- Promote multi-modal transportation in District including walking, bikes, and buses
- Accommodate pedestrian, bike, vehicular, and bus traffic on well-designed, attractive streets.

Recommendations:

- Right-sizing streets
- “Road Diet” for Henry Street where Henry Street is narrowed to two lanes throughout. This will allow for the remainder of the currently paved area to be devoted to pedestrian amenities, bike lanes and green infrastructure.
- Crosswalks, bump-outs, walk/don't walk pylons, ADA curb ramps
- Traffic calming
- Complete Streets
- Study the potential for a Car Share program in the District
- Study the potential for a Bike Share program in the District
- Study the potential for passenger rail in the District

Potential Projects

- Greenway Connection Study, Bike Connections to Susquehanna River
- Stadium Shuttle to Downtown Parking Garages
- Downtown ‘Car Share’ Business Incentives



Top left: ‘Right-sizing’ Henry Street to allow for on-street parking, safer pedestrian crossings, and other amenities, Top right: Bike share programs expand access to biking across cities. Middle left: Curb bump-outs allow for shorter crossing distances. Middle right: Car share programs incentivize one- or no-car households. Bottom: Pedestrian rail at grade; exploring the potential to bring pedestrian rail to Binghamton would mean significantly better access to regional cities for commuters and visitors and bring new activity to the district.

Safety

Goals:

- Promote real and perceived safety in District

Recommendations:

- Install Lighting throughout the District with a focus on enhanced light levels on Henry Street as a commercial pedestrian corridor
- Physical improvements to streetscape environments for pedestrian safety
- Encourage outreach and collaboration between community organizations, residents, and the Police Department
- Encourage the development of a vibrant neighborhood with residents and business owners that are invested in the success of the District

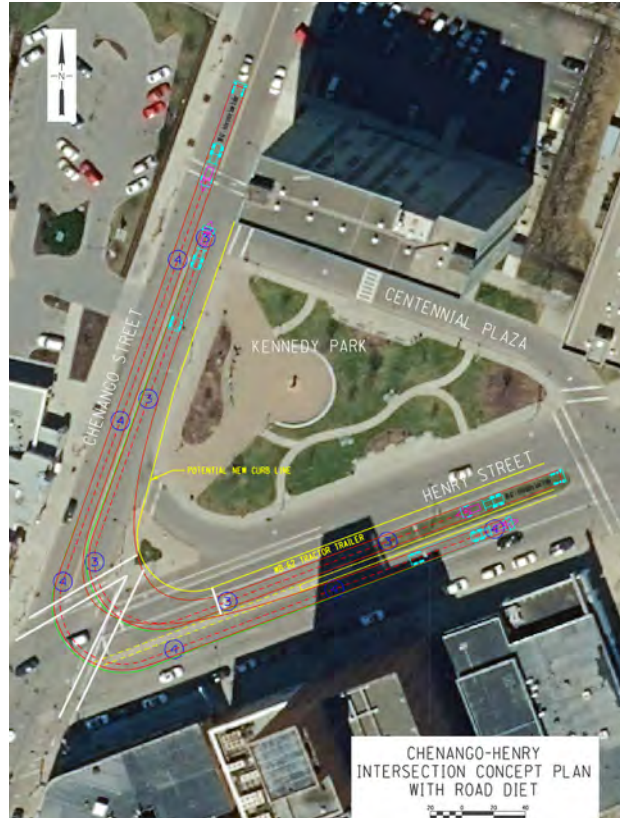
Surface Parking

Goals:

- Reduce scattered surface parking lots
- Promote alternatives to personal vehicles and discourage excessive amounts of surface parking

Recommendations:

- Install parallel parking on-street in Henry Street where not present
- Reduce parking demands by investing in multi-modal transportation alternatives and walkability
- Add on-street parking to Henry Street
- Incentivize reduced parking at businesses
- Eliminate parking requirements in District as part of City zoning laws
- Purchase parking lots that are underutilized for redevelopment
- Retrofit existing surface parking lots with green infrastructure and attractive edge treatments to enhance the public realm



Left: Concept plan for removal of the slip lane between Kennedy Park and 100 Chenango Place. Upper, middle right: Images of streets that have undertaken 'road diets'. Bottom: Visual screening of parking.

Housing

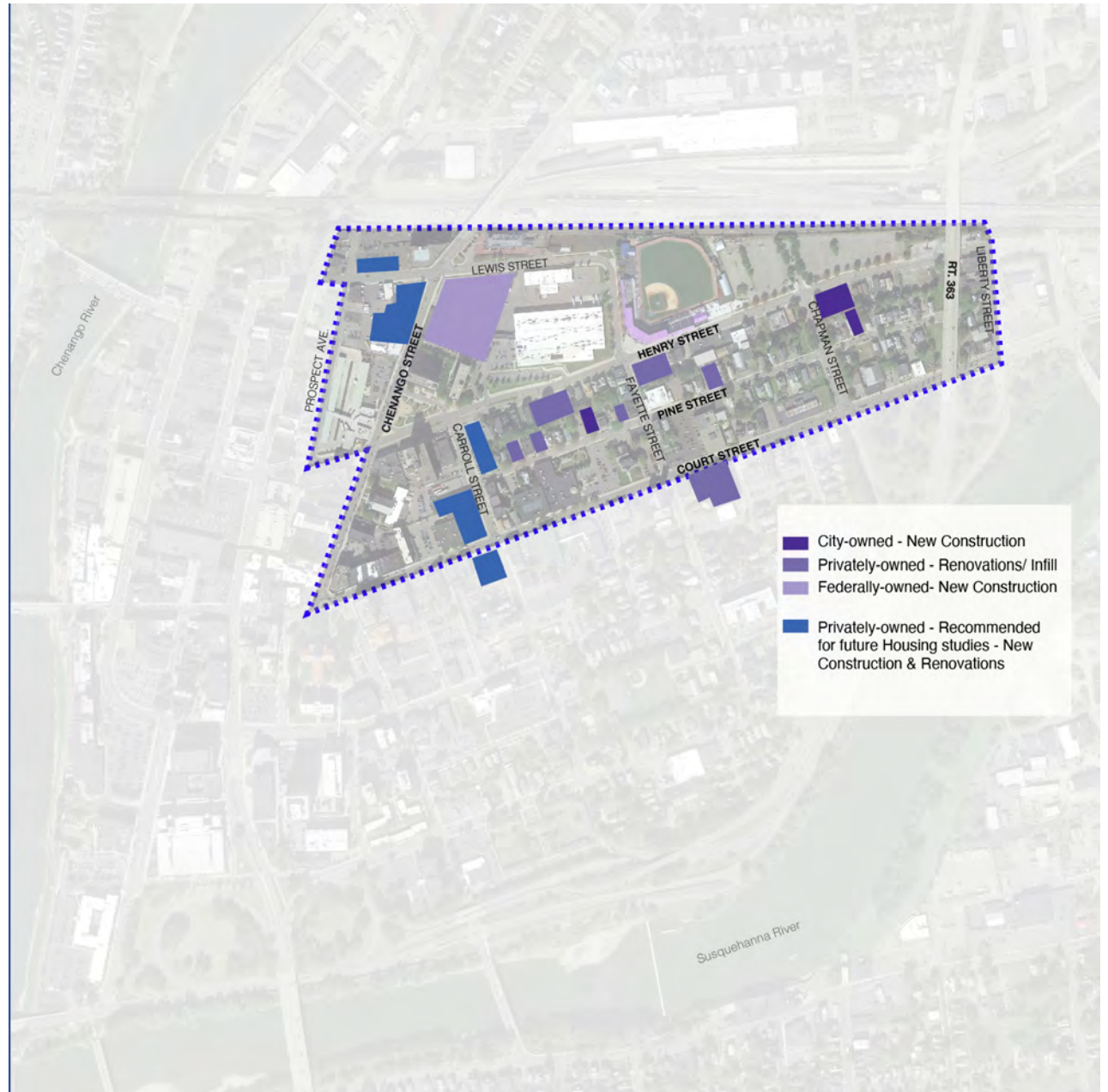
The master plan envisions adding more affordable and moderate-income housing, as well as some market-rate housing, to the District over time. The available supportive housing within City limits is concentrated in downtown, and is therefore not recommended to further increase supportive housing here, but rather to bring more residents from a wide range of backgrounds to the District. Within the demographics of affordable, moderate-income, and market-rate housing, the Plan envisions many different types of housing: homeownership of single-family houses, townhouses, or condos; rental units in townhouses or apartments; and even cooperatively owned housing.

Goals:

- Improve housing quality and availability for residents at the affordable, moderate-income, and some market-rate housing through new development and housing renovation.

Recommendations

- Prioritize parcels for redevelopment and coordinate as needed for these properties to be owned by responsible housing developers and organizations with a proven track record
- Set policies that prioritize homing residents already living in the district
- Incentivize projects that provide home ownership opportunities at a range of affordability levels
- Focus on highly distressed areas for renovation and redevelopment
- Work with private development partners that have experience improving neighborhoods through new housing or renovation of existing housing
- Facilitate further public engagement related to housing needs in District to gain public support for housing initiatives
- Undergo a market study to understand the



Additional housing for affordable, moderate-income, and some market-rate demographics, and in a number of housing types including owner-occupied and rental units, is a tremendous opportunity for the district. This diagram indicates potential priority locations for new housing within the district.

- demand for affordable, moderate-income, and market-rate housing
- Facilitate further public engagement efforts related to new housing projects in the District

Potential Projects

- Henry St- acquire empty lot at 110 Henry
- Henry St - acquire 106 Henry
- Henry St -acquire 104 Henry
- Henry St - acquire 100 Henry
- Henry St. 100-110 Housing Option 1 - renovate existing buildings - affordable and moderate
- Henry St. 100-110 Housing Option 2 - townhouse/single-family new construction - affordable and moderate income
- Henry St. 100-110 Housing Option 2 - mixed-use apartments new construction- moderate income and market rate
- Henry St - 180-186 Henry St. - City-owned - Opt 1 - townhouse/single-family new construction - affordable and moderate income
- Henry St - 180-186 Henry St. - City-owned - Opt 2 - mixed use new construction - affordable and moderate income - 3 - 5 stories
- Henry St - 211 Henry St - City-owned - mixed use new construction - moderate income and market rate- 4 - 6 stories

- Pine St - development of 1 Pine Street as housing
- Pine Street - New Housing at 77 Pine St - City owned
- Pine Street - New Housing at 25 Pine St - County owned

- Chenango St - acquire 120 Chenango St.
- Chenango St. 120 Chenango St. Housing Option 1 - mixed use new construction, 4 - 6 stories, moderate income and market-rate
- Chenango St. 120 Chenango St. Housing Option 1 - mixed use new construction + new City-owned parking garage

- Carroll St. - acquire 84 Henry, 1 Pine St
- Carroll St. - 84 Henry-1 Pine Housing Option 1 - townhouse new construction
- Carroll St. - 84 Henry-1 Pine Housing Option 1 - mixed-use new construction, 3 - 5 stories

Undeveloped Parcels

Undeveloped parcels can be devoted to uses that provide benefits to the community.

Goals:

- Infill development in undeveloped parcels

Recommendations:

- Add a mix of affordable and market-rate housing
- Promote new commercial on Henry Street
- Develop more parks and green spaces



Affordable and moderate-income housing developments as seen in Williamsburg, VA; Boston, MA; and Canandaigua, NY demonstrate the range of architectural style and scale.

Local Precedents

Successful Projects in Binghamton

- Front Street Gateway Homes – First Ward Action Council
- First Ward Action Council (FWAC) purchased twelve properties on the Front Street corridor and rehabilitated the existing houses for use as affordable rental units. This project utilized low income tax credits and was assisted with funding from the State as well as the City to transform the Front Street ‘gateway’ into the city by improving the quality of existing housing stock.
- Crandall Street – First Ward Action Council FWAC
- ‘DECO’ Downtown Arts District Streetscape

Successful Regional Projects

- 210 Hancock Street - Ithaca Neighborhood Housing Services (INHS)

Planning Initiatives

- New York State Department of Transportation Study on Complete Streets Planning Initiative



Top: Hancock Street project by INHS and Front Street houses by FWAC, both of which serve affordable income residents. Middle: 50 Front Street, a market-rate precedent project example.

Sustainability

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Green infrastructure is a component of sustainable development. In a flood prone area such as Binghamton, it is particularly important to consider water management.

- Green infrastructure is an approach to water management that protects, restores, or mimics the natural water cycle.
- This allows water to infiltrate into the ground rather than runoff into streams and rivers, causing flooding and costing municipalities to build and maintain grey storm water infrastructure.
- Green infrastructure is effective, economical, and enhances community safety and quality of life.
- It is a component of complete streets – separates pedestrians from cars
- Allows stormwater to infiltrate and offsets runoff from roofs and surface parking
- Mitigates urban heat island effects
- Decrease in impervious surfaces decreases downstream flooding

Cost Benefit Analysis

On its website, the Environmental Protection Agency has a series of case studies and tools which look at the costs and benefits of green infrastructure. Analyzing cost alone ignores the difference in performance between green infrastructure and grey infrastructure. As a result, they provide an incomplete basis for decision-making. When life cycle costs are taken into account, GI is often less expensive and provides other benefits as describe above. See “Green Infrastructure Cost-Benefit Resources” <https://www.epa.gov/green-infrastructure/green-infrastructure-cost-benefit-resources>

Goals:

- Promote sustainable economic growth
- Reduce carbon emissions
- How can the project assist the City in reaching their goal of reducing CO2 emissions by 2025 per the Energy and Climate Action Plan

Recommendations:

- Green Infrastructure retrofits to City streets and requirements for new construction
- Solar panels installed in large expanses of impervious surface such as the post office roof or stadium parking lot
- Promote walking short distances by improving the pedestrian experience

Potential Projects:

- Henry Street - Solar Panels in Stadium Parking Lot
- Henry Street - Solar Panels on Post Office Building Roofs
- Pine Street - Solar Panels on Red Barn Technology Group Buildings
- Court Street - Solar Panels on Veterans Administration Clinic Building Roof
- Court Street - Solar Panels on 200 Court Street Building Roof
- Chenango Street - Solar Panels on Transit Center Roof - County owned
- Energy Efficiency Retrofit Micro-Grant Program for Existing Homes
- Green Infrastructure projects: see Streetscape projects



Top: Wayfinding signage; Middle: Raised intersections help calm traffic; Bottom: Bike parking along Henry Street could encourage connectivity to Two Rivers Greenway and on city streets.

5.4. Master Plan Project Matrix

A spreadsheet is included in the appendices which lists potential projects by type and location.

The pricing used for the master plan proposal came from a number of sources, including:

- Relevant similar projects such as façade improvement grants in nearby cities such as Utica; recently completed solar rooftop installations such as the recently completed Canal Plaza project; recently released RFPs for comparable studies such as the proposed Two Rivers Greenway connection study; and comparable housing projects such as those completed by First Ward Action Council and other housing agencies.
- City of Binghamton Engineering Department funding application figures were used for the Henry Street streetscape proposals; this figure was reduced by a reasonable amount when accounting for other streetscape projects that are not as extensive as those proposed on Henry Street.

Note that while these figures are helpful for planning purposes, final budgets should be prepared on a project-by-project basis when applying for funding, taking into consideration the effects on the construction market of the coronavirus pandemic, inflation, and detailed feasibility studies, where necessary.

Potential granting agencies that these projects may be applicable to are outlined in the list, for reference if and when applying to funding. Note that specific grant requirements take precedence and applicability of projects is subject to change per the granting agency.

5.6. Comprehensive Plan

Goals:

Align the City of Binghamton Comprehensive Plan with the goals for the Stadium District.

Recommendations:

Describe any changes to City's Comprehensive Plan for the district to align with district goals.

5.7 Zoning

There are six zones in the Stadium District:

- C-1 Service Commercial
- C-2 Downtown Business
- C-4 Neighborhood Commercial
- I-2 Light & Medium Industrial
- I-3 Heavy Industrial
- R-2 One 7 Two-Unit Dwelling

The current zoning does not reflect the existing characteristics of the Stadium District nor the aspirations of a revitalized district. The Master Plan suggests focusing on Henry Street as a mixed-use commercial corridor in the district while encouraging neighborhood commercial in a few important nodes at intersections. Most identified nodes occur along Henry Street. Chenango and Lewis is a node located along Chenango, which is a mostly commercial street. Important nodes located in the residential neighborhood include:

- Fayette and Pine
- Fayette and Court
- Carrol and Court

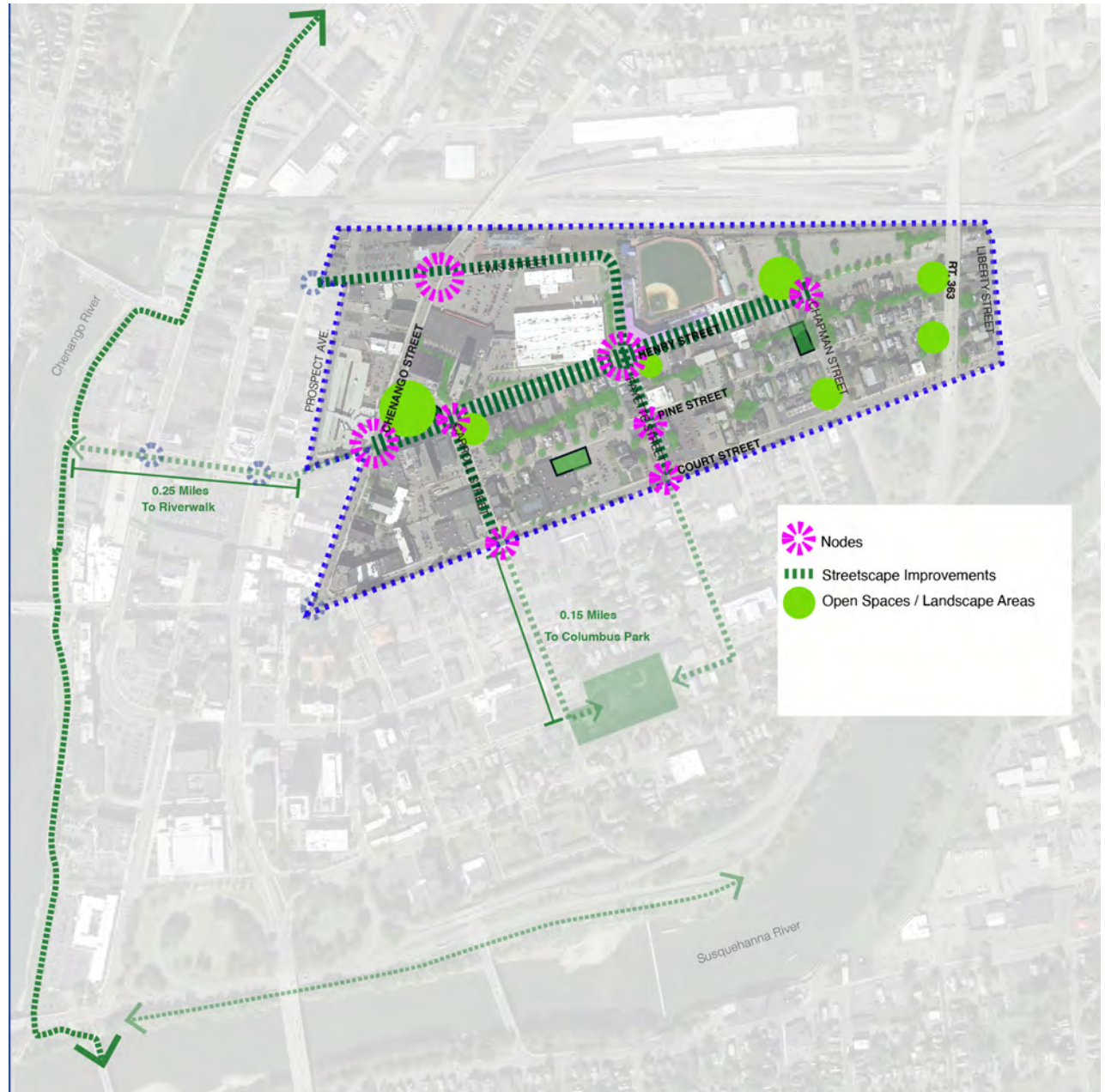
The Stadium and post office are zoned I-2 industrial.

Goals:

Ammend the zoning in the Stadium District to align with Master Plan vision.

Recommendations:

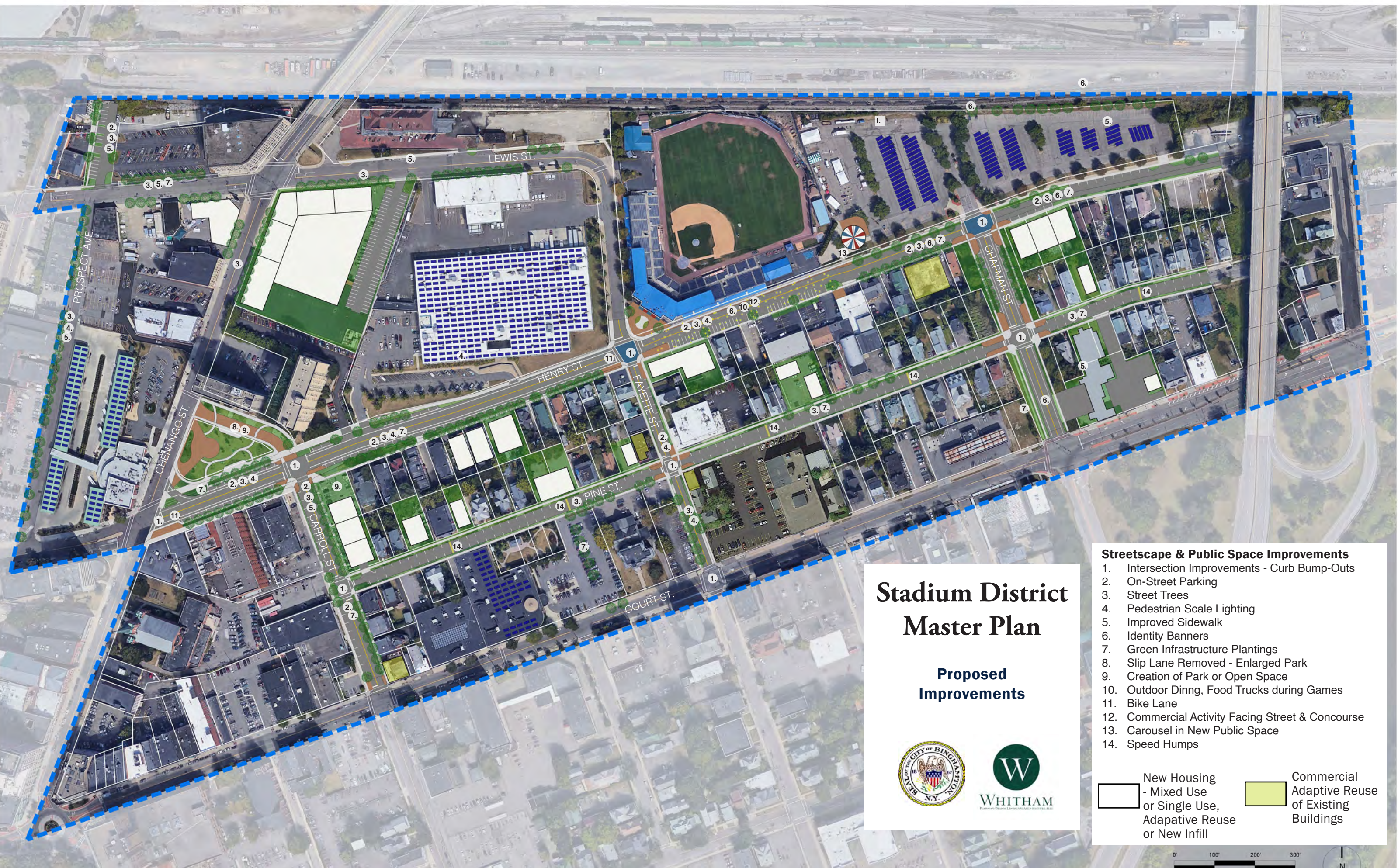
It is recommended that the zoning be simplified



Left: Nodes and streetscape systems that suggest zoning changes to reflect the nature of proposed future development.



to encourage development along Henry Street while encouraging the neighborhood small scale commercial and retention of homes in the residential neighborhood Streets. The following are specific recommendations:

- The western area of the District bordered by Chenango is zoned C-1 Service Commercial and C-2 Downtown Business. This is appropriate and no changes are recommended.
- The southern boundary of the District bounded by Court Street is zoned C-1 Service Commercial. This is appropriate and no changes are suggested with the exception of the I-3 Heavy Commercial.
- All of Pine Street should remain R-2. Future uses of existing grandfathered commercial properties should comply with the R-2 zoning.
- Henry St. is zoned C-4 Neighborhood Commercial and I-2 Light Industrial with a small section at the eastern end of the street I-3 Heavy Industrial. It is recommended that all of Henry Street be re-zoned C-1.
- The section of I-3 at the eastern edge of the district along Liberty Street should become C-1.
- The nodal intersections, listed above, where mixed use building already exist should be zoned C-4.
- The VA Clinic at 203 court Street is zoned C-1, Service Commercial. C-3 Medical would be more in keeping with the current use.
- The Stadium and Post Office should be rezoned to C-1 Service Commercial since their usage is not industrial. These are prime locations for mixed-use development.
- Future zoning should not have any parking requirements to encourage walking and on-street parking, and the use of city owned garages. Parking could be considered on a case by case basis.
- Commercial zones should require active uses on the first floor, including multi-family residential buildings. These uses could include retail, grocery, cafés, restaurants, or small service businesses as well as resident amenities such as an open lobby, gym, or community room.



Stadium District Master Plan

Proposed Improvements

- Streetscape & Public Space Improvements**
1. Intersection Improvements - Curb Bump-Outs
 2. On-Street Parking
 3. Street Trees
 4. Pedestrian Scale Lighting
 5. Improved Sidewalk
 6. Identity Banners
 7. Green Infrastructure Plantings
 8. Slip Lane Removed - Enlarged Park
 9. Creation of Park or Open Space
 10. Outdoor Dining, Food Trucks during Games
 11. Bike Lane
 12. Commercial Activity Facing Street & Concourse
 13. Carousel in New Public Space
 14. Speed Humps
-
- New Housing
- Mixed Use
or Single Use,
Adaptive Reuse
or New Infill
- Commercial
Adaptive Reuse
of Existing
Buildings





Henry Street 'road diet' - reduce to 2 lanes for whole length between Chenango and Liberty Street

On-street parking

Improved housing - affordable/moderate-income, renovations and/or new infill

Bike lane

New open space and green infrastructure added in place of underutilized roadway

Plaza between buildings and park - closed to traffic, emergency access only

Add plantings, furnishings, etc. to park while being aware of historic significance

Slip lane remains in place

Solar panels on Transportation Center roof

Street trees

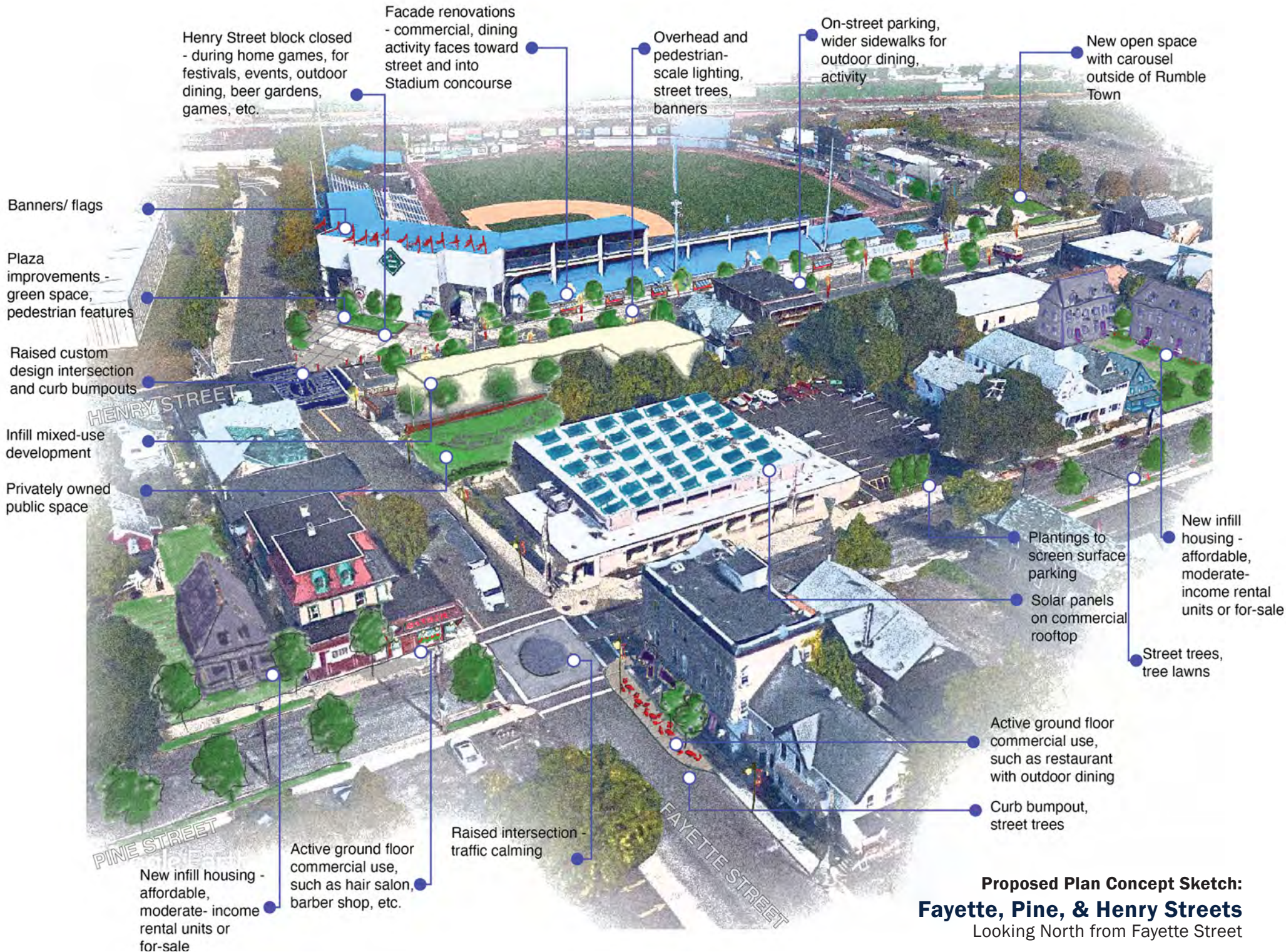
Curb bump-outs with brick paving

Pedestrian refuge with additional green space

Proposed Plan Concept Sketch:

Henry Street

Looking East from Chenango Street



Henry Street block closed - during home games, for festivals, events, outdoor dining, beer gardens, games, etc.

Facade renovations - commercial, dining activity faces toward street and into Stadium concourse

Overhead and pedestrian-scale lighting, street trees, banners

On-street parking, wider sidewalks for outdoor dining, activity

New open space with carousel outside of Rumble Town

Banners/ flags

Plaza improvements - green space, pedestrian features

Raised custom design intersection and curb bumpouts

Infill mixed-use development

Privately owned public space

Plantings to screen surface parking

Solar panels on commercial rooftop

New infill housing - affordable, moderate-income rental units or for-sale

Street trees, tree lawns

Active ground floor commercial use, such as restaurant with outdoor dining

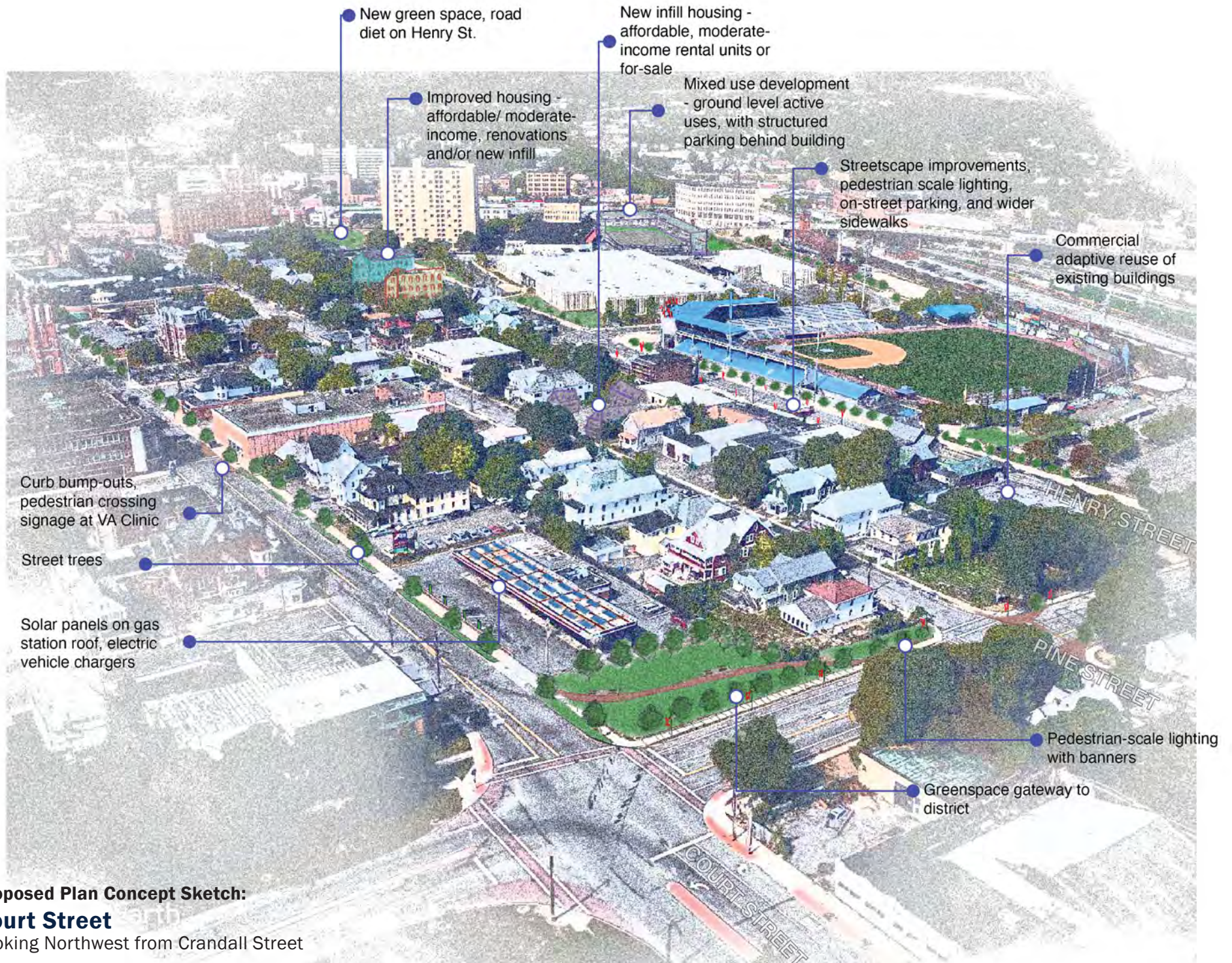
Curb bumpout, street trees

New infill housing - affordable, moderate- income rental units or for-sale

Active ground floor commercial use, such as hair salon, barber shop, etc.

Raised intersection - traffic calming

Proposed Plan Concept Sketch: Fayette, Pine, & Henry Streets
Looking North from Fayette Street



New green space, road diet on Henry St.

Improved housing - affordable/ moderate-income, renovations and/or new infill

New infill housing - affordable, moderate-income rental units or for-sale

Mixed use development - ground level active uses, with structured parking behind building

Streetscape improvements, pedestrian scale lighting, on-street parking, and wider sidewalks

Commercial adaptive reuse of existing buildings

Curb bump-outs, pedestrian crossing signage at VA Clinic

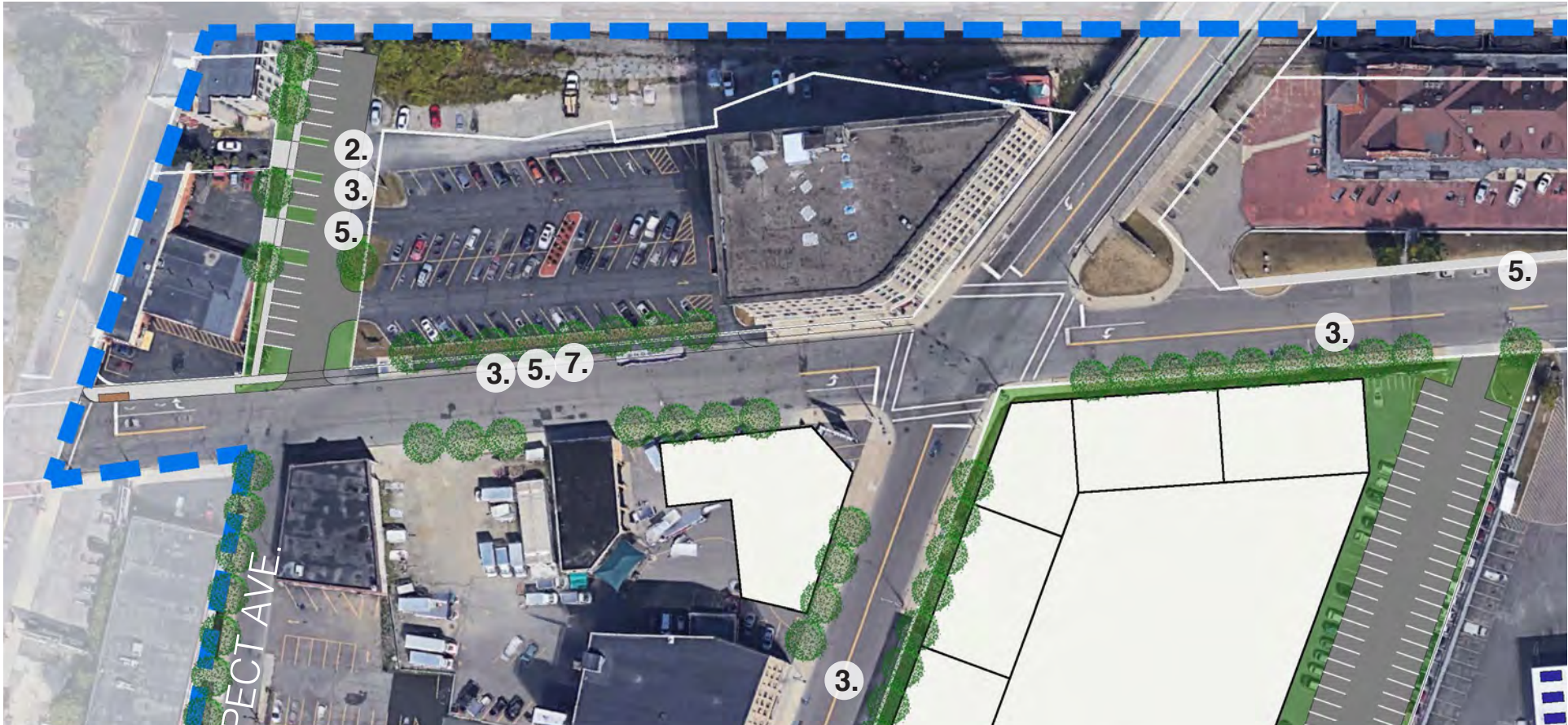
Street trees

Solar panels on gas station roof, electric vehicle chargers

Pedestrian-scale lighting with banners

Greenspace gateway to district

**Proposed Plan Concept Sketch:
Court Street**
Looking Northwest from Crandall Street



Proposed Plan Zoom-In:
Lewis Street
 Prospect Avenue to Chenango Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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or Single Use,
Adaptive Reuse
or New Infill | <div style="border: 1px solid black; width: 20px; height: 10px; background-color: #c8e6c9; display: inline-block; margin-right: 5px;"></div> Commercial
Adaptive Reuse
of Existing
Buildings |
|---|---|



Proposed Plan Zoom-In:
Lewis Street
 Chenango to Fayette Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
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Adaptive Reuse
of Existing
Buildings |
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**Proposed Plan Zoom-In:
Prospect Avenue**
Henry to Lewis Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
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10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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- Mixed Use
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or New Infill | | Commercial
Adaptive Reuse
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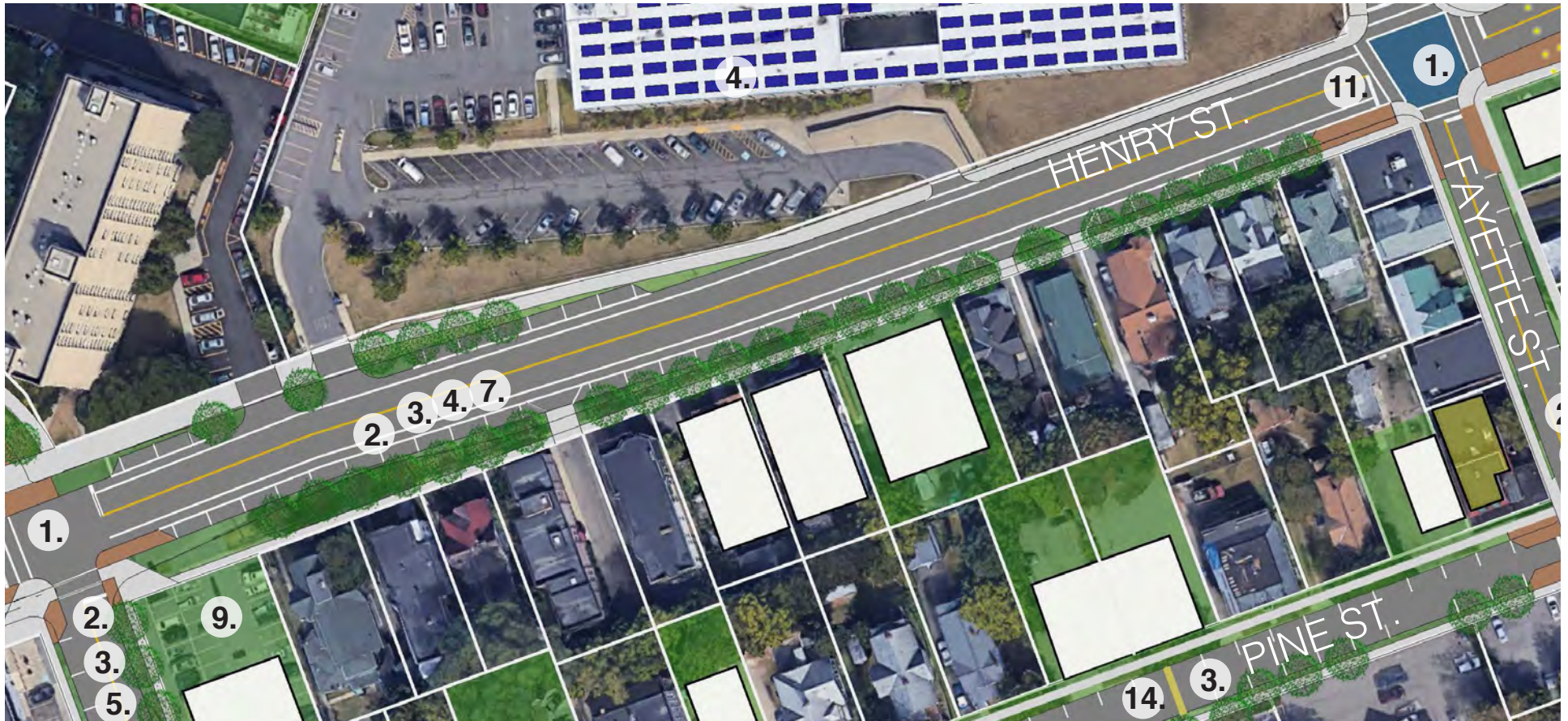


Proposed Plan Zoom-In:
Henry Street
 Chenango to Carroll Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
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13. Carousel in New Public Space
14. Speed Humps

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Proposed Plan Zoom-In:
Henry Street
 Carroll to Fayette Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
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or New Infill | <div style="background-color: #c8e6c9; width: 30px; height: 15px; display: inline-block; margin-right: 5px;"></div> Commercial
Adaptive Reuse
of Existing
Buildings |
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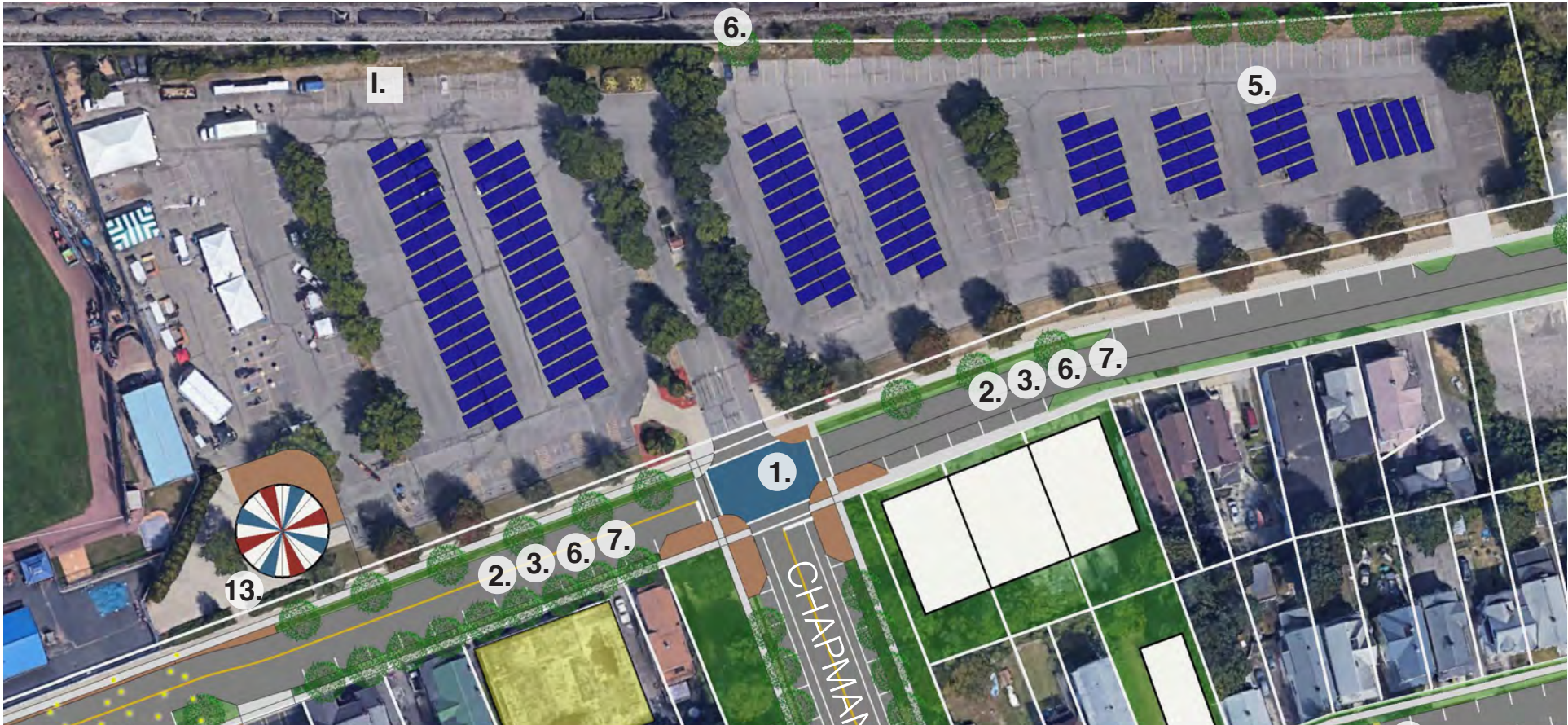


Proposed Plan Zoom-In:
Henry Street
 Fayette to Chapman Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
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6. Identity Banners
7. Green Infrastructure Plantings
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or Single Use,
Adaptive Reuse
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Adaptive Reuse
of Existing
Buildings |
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Proposed Plan Zoom-In:
Henry Street
 Chapman Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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Adaptive Reuse
of Existing
Buildings |
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Proposed Plan Zoom-In:
Pine Street
 Carroll to Fayette Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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Adaptive Reuse
of Existing
Buildings |
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Proposed Plan Zoom-In:
Pine Street
 Fayette to Chapman Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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Adaptive Reuse
of Existing
Buildings |
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Proposed Plan Zoom-In:
Court Street
 Carroll to Fayette Street

Streetscape & Public Space Improvements

1. Intersection Improvements - Curb Bump-Outs
2. On-Street Parking
3. Street Trees
4. Pedestrian Scale Lighting
5. Improved Sidewalk
6. Identity Banners
7. Green Infrastructure Plantings
8. Slip Lane Removed - Enlarged Park
9. Creation of Park or Open Space
10. Outdoor Dining, Food Trucks during Games
11. Bike Lane
12. Commercial Activity Facing Street & Concourse
13. Carousel in New Public Space
14. Speed Humps

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Adaptive Reuse
of Existing
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Chapter 6

References

Chapter 6 References

References and Relevant Research

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Chapter 7

Appendices

Chapter 7 Appendices

- 1. Traffic Analysis**
- 2. Commercial and Housing Provider Stakeholder Interview Notes**
- 3. Survey Data Results**
- 4. Detailed Transcription of Public Meeting Comments**
- 5. Project Matrix**

1. Traffic Analysis

October 13, 2021

MEMORANDUM

TO: Juliet Berling

FROM: Michele Palmer

RE: Stadium District Traffic Analysis Performed by GTS Consulting

Below is a summary of the study and its findings:

Study Parameters:

1. The traffic analysis of the existing traffic operations was needed to understand how traffic flow currently functions and determine if there is potential roadway space available to be utilized for the enhancement of the streetscape without sacrificing traffic flow while improving safety. Several types of potential improvements are under consideration. These include sidewalk dining, seating, complete streets, pedestrian and bicycle amenities, and green infrastructure practices.
2. Traffic counts were taken for a typical weekday evening and weekday game day. The game day traffic period is later in the evening and does not overlap with typical evening peak.
3. The study area was limited in scope to a focus on Henry Street from Chenango St. to Chapman St. with emphasis on several nearby intersections.
4. Ten intersections within the district were analyzed for their current traffic and configuration. The intersections' geometry and traffic signals were reviewed.
5. Street width was measured, and on-street parking was inventoried.
6. Potential interventions were studied in detail.
 - a. "Road Diet" for Henry Street
 - b. Temporary closure of Henry Street between Fayette and Chapman Streets during Rumble Ponies game days.
 - c. Directing traffic to Chapman Street as the main route to the stadium during temporary closures.
 - d. The potential removal of the one-way slip turning lane from Chenango Street on to Henry Street.
 - e. Pine Street becoming two-way

Study Findings:

1. Traffic is not a limiting factor for the potential enhancements under consideration. Traffic flows throughout the study area are low and meet the criteria for providing a desired level of service. None of the potential changes affect service.
2. Henry Street is excessively wide (70-80 feet) for the amount of traffic it carries. The study describes Henry as "significantly overbuilt." Turning lanes are not necessary and removing them will not affect traffic flows.
3. Reducing Henry Street to two 12' wide travel lanes will accommodate traffic flows.
4. The study concluded "Atypical of many corridors, Henry Street has significant excess traffic capacity which makes it very well suited to be revitalized with a complete streets approach to promote all modes of transportation."
5. The temporary closure of Henry Street between Fayette and Chapman Streets during Rumble Ponies game days will not substantially affect traffic flows. This is particularly true if undertaken peak evening times, approximately 5:00 pm.
6. Localized signage to notify drivers of the temporary closure is recommended.
7. Re-directing traffic to Chapman Street on game days will not substantially improve traffic flows and is unnecessary.
8. The removal of the one-way slip turning lane from Chenango Street on to Henry Street is possible and will not affect traffic flows or turning movements if the intersection is reconfigured. Very few vehicles utilize the slip-lane. Benefits include that Centennial Park would not be a traffic island and would be more connected to 100 Chenango Place and Metro Plaza Apartments.
9. The study does recommend that the right turn lane from Henry Street onto Chenango and refuge island remain. The pedestrian crossing would still be somewhat wide but improved.

10. Converting Pine Street to two-way will not substantially improve traffic flows and is unnecessary. It would remove on-street parking for residents. This option is not recommended.



T Consulting



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October 12, 2021

Whitham Planning & Design, PLLC
142 East State Street, Suite B
Ithaca, NY 14850

Attn: Ms. Michele Palmer, PLA, ASLA, LEED GA

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Dear Ms. Palmer:

I have completed my analysis of traffic operations and alternative modification scenarios associated with the Stadium District Master Plan Study in Binghamton, NY. This letter summarizes the work completed in this review as well as my findings.

Project Understanding

The City of Binghamton is conducting a Master Plan study of the Stadium District adjacent to the Mirabito Stadium on Henry Street in the City. As part of the study, traffic analyses of the existing traffic operations is needed to understand current operations and determined capacity availability to enhance pedestrian and bicycle amenities in the area. The study area for the traffic analyses completed includes the following ten intersections.

1. Henry Street @ Chapman Street
2. Henry Street @ Fayette Street
3. Henry Street @ Carroll Street / Centennial Plaza
4. Henry Street @ Chenango Street
5. Lewis Street @ Chenango Street
6. Lewis Street @ Fayette Street (Gate 4 Access)
7. Pine Street @ Liberty Street
8. Pine Street @ Chapman Street
9. Pine Street @ Fayette Street
10. Pine Street @ Carroll Street

Traffic operations have been evaluated under two scenarios, a typical weekday evening hour and a weekday game day evening peak hour before a Binghamton Rumble Ponies home baseball game.

Data Collection

The 2021 existing traffic volumes in the study area were developed using a combination of historical traffic count data and new turning movement counts collected in September 2021.

2017 traffic turning movement counts were taken from the Binghamton Metropolitan Transportation Study (BMTS) website for the signalized intersections in the study area along Henry Street and Chenango Street. The traffic counts were collected between 3:00pm-5:30pm in May, June and July and included cars, heavy vehicles, pedestrians and bicycles. The 2017 historical traffic count data has been attached.

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Site visits were conducted on Tuesday – September 14th, Thursday – September 16th, and Thursday – September 23rd to collect the following:

- Typical Weekday Evening Traffic Counts – Traffic turning movement counts were collected at the four study area unsignalized intersections along Pine Street during the typical weekday evening (4-6pm) peak travel period on the 23rd to ensure that the actual peak hours of the street were captured. The traffic counts included passenger cars, trucks and bicycles by movement, as well as pedestrians.
- Weekday Evening Game Day Traffic Counts – Traffic turning movement counts were collected at the ten study area intersections during the 1½ hour evening peak period before a Rumble Ponies home game (5pm-6:30pm) on either the 14th or 16th to ensure that the actual peak hours of the streets were captured. The traffic counts included passenger cars, trucks and bicycles by movement, as well as pedestrians.
- Available Parking Inventory – An inventory of existing available on-street parking space was collected along the study area roadways.
- Operational Data - Other data needed to evaluate traffic operations, such as intersection/roadway geometry, control, and signal timings were also collected.

2021 Existing Operations

Henry Street has one lane in each direction in the eastern half of the study area between Carroll Street and Chapman Street. There are auxiliary eastbound and westbound left turn bays at the intersection with Chapman Street and the stadium parking lot, and an auxiliary westbound right turn lane in front of the stadium at Fayette Street. The overall curb to curb pavement width varies between 36 feet wide to the east of Chapman Street to 40 feet wide in front of the stadium.

Henry Street widens significantly approximately 500 feet to the west of the Fayette Street intersection with a median and two through lanes in each direction at the Carroll Street intersection and two eastbound through lanes/one westbound through lane at the Chenango Street intersection. The second westbound lane drops as a right turn only lane slip ramp at Chenango Street. There are auxiliary westbound left turn bays at both intersections. Henry Street returns to one lane in each direction to the west of Chenango Street. The overall curb to curb pavement width varies between 69 feet wide to the east of Carroll Street, 84 feet wide along Kennedy Park, 79 feet wide to the east of Chenango Street and 57 feet wide to the west of Chenango Street.

There are auxiliary north/south left turn lanes on Chapman Street at Henry Street with single lane approaches to Henry Street on Fayette Street, Carroll Street, Centennial Plaza, and Chenango Street.

The traffic signals along Henry Street are all operating with fixed timing plans. They are all simple two phase signals with the exception of Carroll Street, which includes an advance westbound left turn phase.

Pine Street is a one way eastbound roadway between Carroll Street and Liberty Street with one travel lane and parking on both sides of the street. Pine Street is stop sign controlled at each the Chapman Street intersection with all-way stop control at the Fayette Street intersection. The curb to curb pavement width is consistent along Pine Street at approximately 29 feet throughout the study area.

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

The following summarizes the existing available parking along Henry Street and Pine Street and Chenango Street within the study area:

Henry Street – Chapman Street to Fayette Street

- North Curb Line – 376 feet parking (~15 vehicles), 25 feet of 15 minute parking (1 vehicle) – No Parking During Games
- South Curb Line – No Parking Anytime

Henry Street – Fayette Street to Carroll Street

- North Curb Line – 135 feet Resident Only parking (~5-6 vehicles), 1 handicapped parking space
- South Curb Line – Signage is unclear/missing – potential space for up to 7 cars near Carroll Street.

Henry Street – Carroll Street to Chenango Street

- North Curb Line – No Parking Anytime
- South Curb Line – 205 feet parking (~8 vehicles), 50 feet of 15 minute parking (2 vehicles), 1 handicapped space.

Chenango Street – Henry Street to Lewis Street – Parking is confusing with significant signage

- East Curb Line – Intermittent parking for up to 9 vehicles, 1 parcel pickup only space
- West Curb Line – Intermittent parking for up to 8 vehicles, 5 taxi spaces, 3 15 minute parking spaces, 2 handicapped spaces.

Pine Street – Liberty Street to Chapman Street

- North Curb Line – space for up to 34 vehicles, 3 resident only spaces, 1 handicapped space
- South Curb Line – space for 41 vehicles

Pine Street – Chapman Street to Fayette Street

- North Curb Line – space for up to 27 vehicles
- South Curb Line – space for 22 vehicles, 2 2 hour spaces, 1 2 hour handicapped space

Henry Street – Fayette Street to Carroll Street

- North Curb Line – space for up to 27 vehicles
- South Curb Line – space for 36 vehicles, 1 handicapped space

Historical traffic volumes along Henry Street between Chenango Street and Liberty Street were taken from the NYSDOT Traffic Data Viewer website and reviewed in order to identify an appropriate background growth rate in the area. The long term growth rate has been negative on this section of Henry Street at -2.3% per year between 2011 and 2019. Given the negative growth trends in the area, there were no adjustments made to the 2017 BMTS traffic counts to bring them to the 2021 existing condition.

The 2017 and 2021 traffic counts for the typical weekday evening peak hour and the 2021 traffic counts for the game day evening peak hour were reviewed and balanced through the study area. Based on the traffic counts collected at the signalized and unsignalized intersections, the peak hours were identified as follows:

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Weekday Typical Evening Peak Hour – 4:00pm-5:00pm
Weekday Game Day Evening Peak Hour – 5:30pm to 6:30pm

The 2021 existing traffic volumes for the typical and game day evening peak hours are shown in the attached Figure 1. The traffic count data has been attached.

It is noted that the 2021 typical evening peak hour traffic counts on Pine Street balanced well with the 2017 BMTS traffic counts on Henry Street in the north/south directions on Chapman Street, Fayette Street and Carroll Street. The imbalances between the 2017 and 2021 traffic counts during the 4-5pm peak hour were less than 10 vehicles on Chapman Street, 20-25 vehicles on Carroll Street and 30-35 vehicles on Fayette Street. Given the general consistency in the overall magnitude of traffic between the 2017 and 2021 counts, there were no adjustments made to account for the current Covid pandemic. This is consistent with general trends being observed in traffic, that morning peak periods are still 10-15% lower than years before the pandemic, but the evening peak hours are trending back to normal levels.

Base on the count data review, Henry Street is generally considered a low to moderate volume roadway in the area. Henry Street carries approximately 150-200 vehicles in each direction through the study area during a typical evening peak commuter hours with minor turning movements of 20-30 vehicles turning left or right off Henry Street at each of the signalized intersections. Moving later into the evening on a game day, the traffic volumes on Henry Street are lower than the typical peak commuter hour, even with the added game day traffic. During the game day peak hour, Henry Street was observed to carry approximately 100-150 vehicles in each direction through the study area. Turning movements at the signalize intersection are still generally low with the exception of approximately 85 vehicles turning left into the stadium parking and 70 vehicles turning right into the stadium parking.

Pine Street is a low volume roadway carrying less than 50 vehicles eastbound through the study during both the typical and game day evening peak hours.

Capacity analysis of the existing traffic operations was completed using Synchro10, an industry accepted standard for the analysis of both signalized and unsignalized intersections that is based on methodologies developed in the Highway Capacity Manual. Intersection and individual movement operations are graded in terms of Level of Service ranging from A to F, as described in the HCM. For example, an unsignalized intersection movement with an average delay of 5 seconds per vehicle is considered a Level of Service A while an average delay per vehicle of 20 seconds is considered a C. A Level of Service D or better is generally considered acceptable for a signalized intersection while a Level of Service E or better is generally considered acceptable for an unsignalized intersection.

The results of the Synchro capacity analysis indicate that all traffic movements at the signalized intersections along Henry Street are operating at overall Levels of Service B or better during both the typical and game day evening peak hours with all individual traffic movements operating at acceptable Levels of Service C or better during both peak hours. All unsignalized traffic movements along Pine Street are operating at Levels of Service A during both peak hours.

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

The maximum queue results from the Synchro analysis indicates that there is no significant traffic queuing in the area during the peak hours. Maximum queues are generally less than 100 feet on most intersection approaches during both peak hours, with all traffic queues staying under 150 feet. There are no storage deficiencies noted.

There are no concerns noted with existing traffic operations in the study area during either a typical evening peak commuter hour or during the later evening peak hour before a Rumble Ponies home game.

The detailed Level of Service summary, Queue summary and capacity analysis printouts have been attached.

Alternative 1 – Lane Reduction

In order fully evaluate the available traffic capacity on the roadway, the lane reduction alternative assumed elimination of all auxiliary lanes and secondary lanes along Henry Street in the study area. The following model adjustments were made:

- Eliminate eastbound/westbound left turn bays at Chapman Street – single shared left/through/right lane in each direction on Henry Street.
- Eliminate westbound right turn bays at Fayette Street – single shared left/through/right lane in each direction on Henry Street.
- Eliminate 2nd east/west lanes, westbound left turn lane and median at Carroll Street/Centennial Plaza – single shared left/through/right lane in each direction on Henry Street.
- Eliminate 2nd eastbound through lane, westbound left turn lane, westbound right turn lane and median at Chenango Street – single shared left/through/right lane in each direction on Henry Street.

The Synchro capacity analysis of the lane reduction alternative indicates that there are no notable impacts to overall traffic operations in the area during either peak hour. The signalized intersections will continue to operate at Level of Service B or better and all individual movements are projected to operate at Level of Service B or better during both peak hours at all study area intersections. All maximum traffic queues are projected to remain under 150 feet, with the exception of the westbound Henry Street approach to Chenango Street, which is 180 feet.

The peak hour traffic volumes are low enough that they can easily be accommodated in single lane traffic operations throughout the study area.

The detailed Level of Service summary, Queue summary and capacity analysis printouts have been attached.

A road diet along Henry Street has significant potential to add pedestrian, bicycle, or parking opportunities in the area, particularly in the western portion of the corridor where existing curb to curb widths range between 60-80 feet.

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Alternative 2 – 2-Way Pine Street Conversion

As noted previously, Pine Street is a very low volume roadway. Given that Pine Street terminates at Carroll Street on the west end and Liberty Street on the east end, and has longer through roads immediately to the north (Henry Street) and south (Court Street), it is not anticipated that conversion to two way operations will result in any significant increased use of the roadway. The following 4 assumptions were used in redistribution of the 2021 existing traffic volumes with conversion of Pine Street from one way to two way operations.

- Assume that 10% of the traffic volumes turning westbound left onto Chapman, Fayette and Carroll from Henry Street will now use Liberty to Pine Street westbound, and then turn left onto each roadway.
- Assume 10% of the northbound through traffic at Pine Street on Chapman, Fayette and Carroll will use Liberty to Pine Street westbound and then turn right onto each roadway.
- Assume 15% of the southbound right turning traffic onto Henry Street from Fayette and the stadium parking will now travel straight to Pine Street and then turn right to access Carroll Street.
- Assume 10% of the northbound traffic on Carroll Street at Pine Street now uses Fayette (5%) and Chapman (5%) to Pine Street westbound to Carroll Street.

The estimated redistributed trips with the Pine Street conversion are shown in Figure 2. The 2021 existing traffic volumes with the two way Pine Street conversion are shown in Figure 3. Overall the conversion of Pine Street to two way operations is anticipated to draw approximately 20-30 westbound vehicles during the typical and game day evening peak hours, which is similar to existing magnitude of the eastbound traffic volumes.

The potential conversion of Pine Street from one way to two way operations was evaluated using the lane reduction models as the base condition. Capacity analysis of the study area intersections with the Pine Street conversion indicates that there will be very little change in overall traffic operations in the area. The overall signalized intersections and individual traffic movements will all continue to operate at Level of Service B or better during the two evening peak hours. All unsignalized traffic movements along Pine Street will operate at Level of Service B or better during both the weekday evening and game day evening peak hours.

There are minimal impacts on project maximum traffic queues during both peak hours.

The detailed Level of Service summary, Queue summary and capacity analysis printouts have been attached.

It is noted that the conversion of Pine Street to two way operations will require eliminate of parking along one side of the roadway. The existing 29 foot curb to curb width is insufficient to accommodate parking on both sides of the road with one lane in each direction. This would equate to eliminating parking for up to 92 vehicles along the north curb line or 103 parking spaces along the south curb line between Carroll Street and Liberty Street.

Alternative 3 – Centennial Plaza Street Closure

The short one way segment of Centennial Plaza from Chenango Street to Henry Street results in an undesirable physical separation between the apartments and the Kennedy Park. While the roadway does allow trucks and buses turning left onto Henry Street to bypass the skewed Chenango/Henry intersection, the overall use of Centennial Plaza is minimal with approximately 50 vehicles during the typical weekday evening peak hour and

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

approximately 15 vehicles during the game day evening peak hour. The 2021 existing traffic volumes, redistributed with the assumed closure of the Centennial road segment are shown in the attached Figure 4.

The closure of the Centennial Plaza segment will require some modification of the Chenango Street/Henry Street intersection to accommodate trucks turning southbound left onto Henry Street. Two sets of concept sketches showing truck turning templates for a WB-40 tractor trailer and a WB-62 tractor trailer turning left onto Henry Street eastbound and right off Henry Street westbound have been prepared and are attached. The southbound left turn movements are shown turning into the outside eastbound lane (Concept Plan) under the existing Henry Street pavement width and into the inside eastbound lane (Concept Plan with Road Diet) under the lane reduction alternative. Each plan includes a similar truck turning westbound right onto Chenango Street without the right turn slip ramp to identify what curb widths would be required if the slip ramp were removed as well. The first plan (Concept Plan) shows the right turning truck turning from the existing through lane while the second plan (Concept Plan with Road Diet) shows the truck turning right from the existing left turn lane location assuming there is a single lane per direction without a median.

The existing crosswalk on the westbound Henry Street approach is approximately 100 feet long. Using the standard pedestrian walking speed of 3.5 feet per second, a 29 second walk interval is required to safely cross Henry Street. Removing the right turn slip ramp with the existing roadway geometry will require a 134 foot crosswalk using a WB-40 or a 149 foot crosswalk using a WB-62. This would extend the pedestrian crossing times to 38-43 seconds, requiring additional green time to be shifted to the north/south phase of the traffic signal. Under the road diet option, the crosswalk width can be held to 108-118 feet with a WB-40 or WB-62 vehicle, requiring a 31-34 pedestrian walk interval. Given the skew of the intersection, it is recommended that the westbound right turn slip ramp be maintained to minimize the pedestrian crossing width and time at the intersection.

It is noted that the westbound stop bar in the left turn lane would need to be pulled back approximately 26 feet to accommodate the a southbound left turning truck under the existing geometry. Under the road diet alternative, the westbound stopbar would need to be pulled back approximately 57 feet using a WB-40 design vehicle or 77 feet using a WB-62 design vehicle.

The potential closure of Centennial Plaza was evaluated using the lane reduction/Pine Street conversion models as the base condition. It was assumed that the westbound right turn slip ramp on Henry Street at Chenango Street was maintained. Capacity analysis of the study area intersections with the Centennial Plaza closure indicates that there will be no notable impact in overall traffic operations in the area. The overall signalized intersections and individual traffic movements will all continue to operate at Level of Service B or better during the two evening peak hours. All unsignalized traffic movements along Pine Street will operate at Level of Service B or better during both the weekday evening and game day evening peak hours.

There are minimal impacts on project maximum traffic queues during both peak hours.

The detailed Level of Service summary, Queue summary and capacity analysis printouts have been attached.

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Alternative 4 – Henry Street Game Day Closure

This alternative assumes full closure of Henry Street between Fayette Street and Chapman Street only on game days after the typical evening peak hour has passed. It is assumed it would be a local closure with no significant advance warning signage beyond a block before the closures. The game day 2021 evening peak hour volumes with the lane reduction, Pine Street conversion, and Centennial Plaza closure were used as the base volumes for evaluation of this alternative. The following assumptions were used in redistribution of the 2021 existing traffic volumes with closure of Henry Street between Fayette Street and Chapman Street.

- Assume that approximately 50% of the existing through traffic on the Fayette-Chapman link knows about the game day closures and uses Court Street to avoid the study area during the hour before the game. This equates to 40 vehicles eastbound and westbound diverting out of the study area.
- The remaining traffic using the Fayette-Chapman link will be detoured around the block using the two way segment of Pine Street.

The redistributed trips during the game day evening peak hour are shown in Figure 5. The anticipated 2021 existing game day evening peak hour volumes with closure of Henry Street between Fayette Street and Chapman Street, with the Pine Street 2-way conversion and closure of Centennial Plaza, are shown in Figure 6.

Capacity analysis of the Henry Street closure alternative during the game day evening peak hour continues to show little to no impact on traffic operations in the study area. All signalized and unsignalized intersection movements continue to operate at Level of Service B or better. There are no significant impacts on maximum traffic queues in the study area.

The detailed Level of Service summary, Queue summary and capacity analysis printouts have been attached.

Alternative 5 – Direct Game Day Traffic To Chapman Street as Main Stadium Entrance

This alternative is essentially the same as the Henry Street closure alternative, except that it may utilize a more extended signage plan to try to guide visitors to Chapman Street via Court Street. Given the extended travel path for traffic arriving from the north on Chenango Street to use any route other than Fayette Street or Henry Street, there is no anticipated change in the traffic route from this approach. Likewise, there is no notable change in travel route expected from the east via Henry Street unless there is a physical road closure to the east of the stadium access. Therefore, other than shifting some minor traffic volumes out of the study area, potentially using Court Street from the west instead of Henry Street, or using Court Street to Chapman Street from Route 363 with signage instead of Liberty Street to Henry Street, this alternative is not anticipated to have any significant impact on traffic volumes within the study area.

2016 Downtown Binghamton Comprehensive Parking Study and Strategic Plan

The 2016 Downtown Binghamton Comprehensive Parking Study and Strategic Plan, prepared by Nelson Nygaard, was reviewed to as it relates to recommendations for the study area and potential impacts that area roadway modifications may have on parking. The Stadium Master Plan study area is split in the parking study, falling in the area described as “Secondary Zone” to the west of Fayette Street and “Outer Zone” to the east of

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Fayette Street. The 2016 study primarily focuses on the “Core Zone” of Binghamton but heavily discusses the need to ensure on-street parking availability.

The potential lane reduction on Henry Street would most likely increase the availability of on-street parking in the area, consistent with recommendations from the Nelson Nygaard study. While the conversion of Pine Street to two-way operations would reduce on-street parking in this area, this loss of parking needs to be weighed against improved traffic circulation with the two-way operations and actual use of the existing parking. It was observed during the data collection that there was very little use of the parking on either side of the street toward the eastern end of the study area.

It is noted that the 2016 study discusses the need for clear signage and information related to parking. During the site visits for this study, it was noted that signage is missing in locations, specifically on Henry Street toward the western end of the study area, and that signage was confusing in some areas, most specifically on Chenango Street to the north of Henry Street.

Conclusions

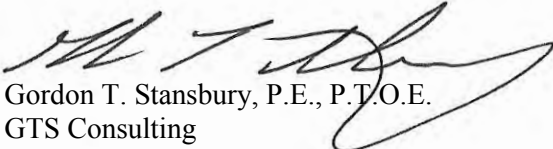
The overall traffic volumes in the study area are low to moderate during both the typical weekday evening peak hour and the later game day evening peak hour. In evaluating the potential roadway modifications, one way street conversions or roadway closures, traffic capacity is not a critical path element given the low to moderate volumes. The capacity analyses completed in this review indicate that traffic will continue to operate at Level of Service B or better regardless of alternatives evaluated.

Looking at Henry Street, the roadway is significantly overbuilt in the western end of the study area between Fayette Street and Chenango Street with a wide pavement transition to two lanes per direction and a wide median. With curb to curb widths of 70-80 feet, there is significant opportunity in this area to reduce the vehicular space and add additional amenities for pedestrians, bicyclists or parking.

Atypical of many corridors, Henry Street has significant excess traffic capacity which makes it very well suited to be revitalized with a complete streets approach to promote all modes of transportation.

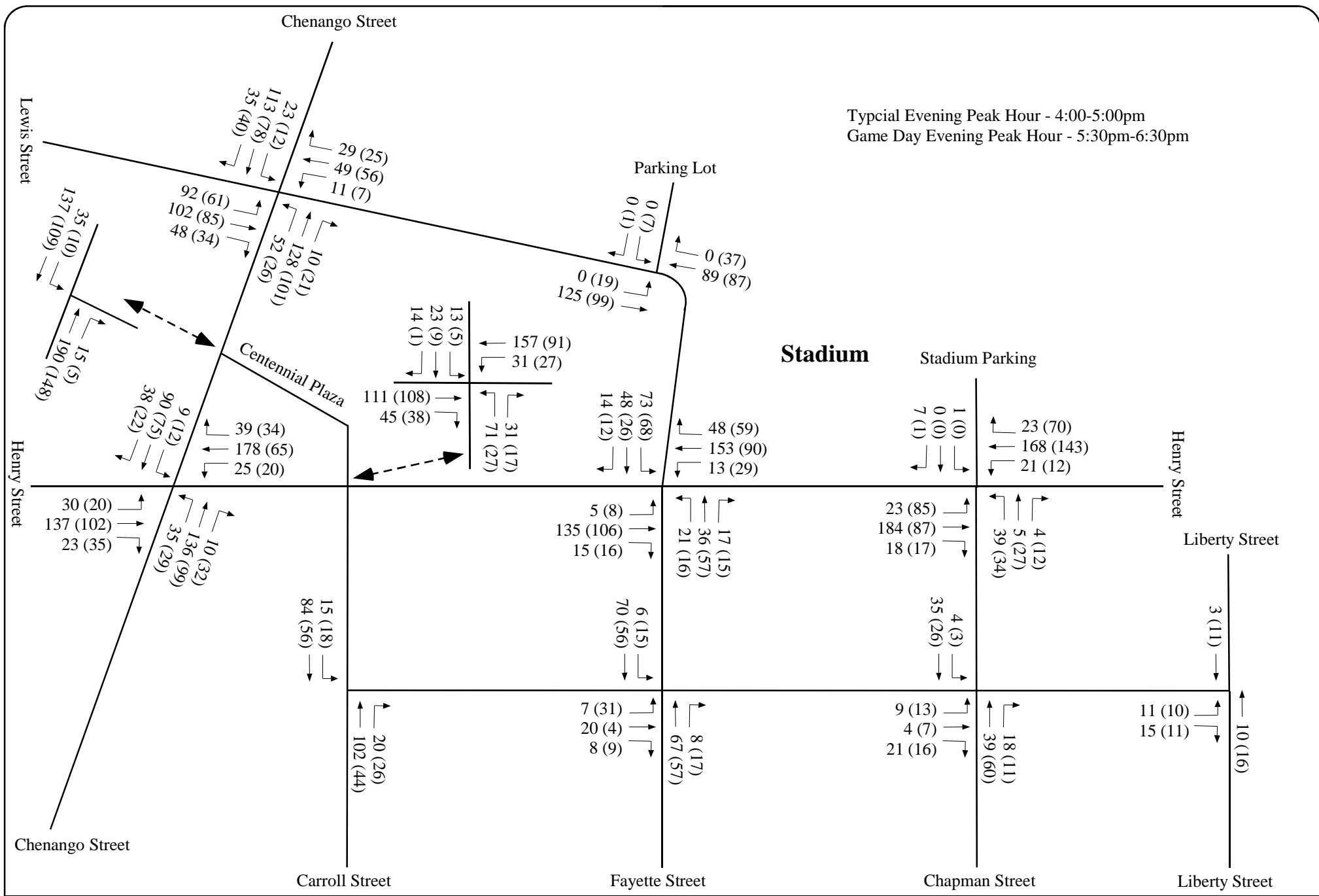
If you have any questions or need additional information, please call.

Sincerely,


Gordon T. Stansbury, P.E., P.T.O.E.
GTS Consulting

Attachments – Traffic Volume Figures 1-6
Queue Summary – Existing
Queue Summary – Alternatives
Background Growth Rate Calculations
Count Data

LOS Summary – Existing
LOS Summary – Alternatives
Turning Templates – Existing/Road Diet Concepts
2017 BMTS Count Data
Synchro Capacity Printouts



Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

2021 Existing Traffic Volumes

Typical (Game Day) Weekday Evening Peak Hour

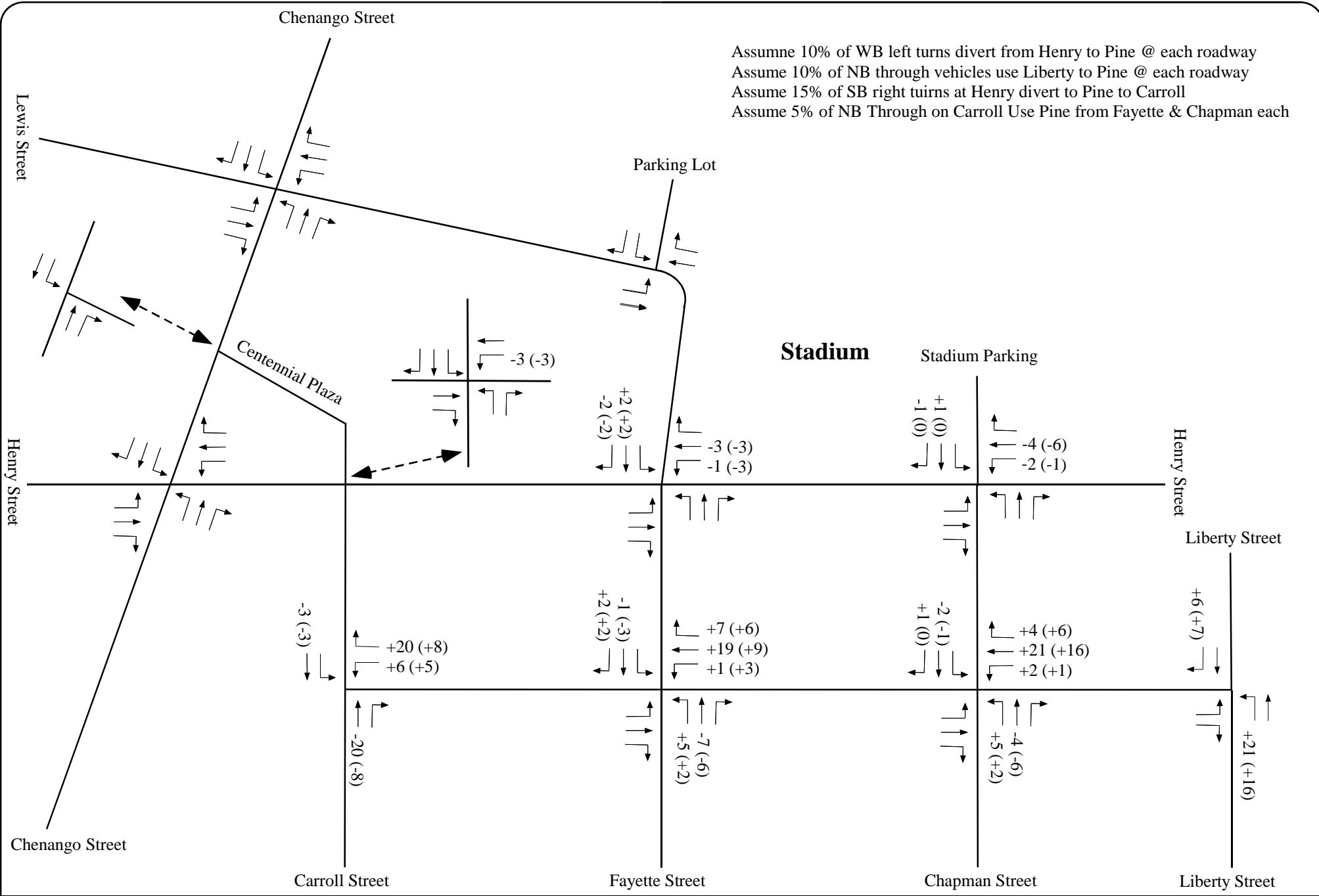
Figure 1

Not to Scale



GTS Consulting

Assume 10% of WB left turns divert from Henry to Pine @ each roadway
 Assume 10% of NB through vehicles use Liberty to Pine @ each roadway
 Assume 15% of SB right turns at Henry divert to Pine to Carroll
 Assume 5% of NB Through on Carroll Use Pine from Fayette & Chapman each



Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

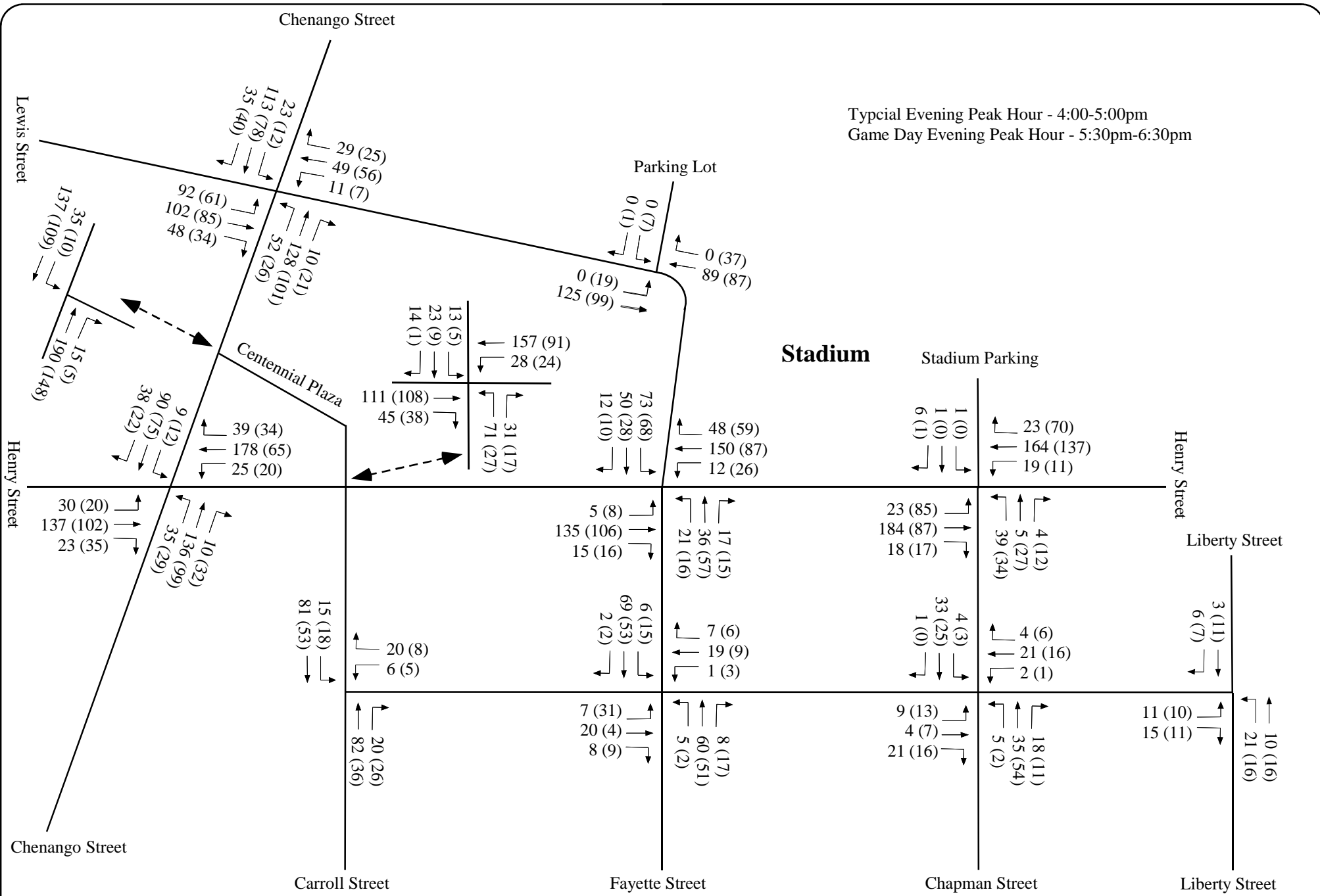
Trip Redistribution - Pine Street Conversion to Two Way
 Typical (Game Day) Weekday Evening Peak Hour

Figure 2

Not to Scale



GTS Consulting



Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

2021 Redistributed Traffic Volumes - With Two Way Operations on Pine Street

Typical (Game Day) Weekday Evening Peak Hour

Figure 3

Not to Scale



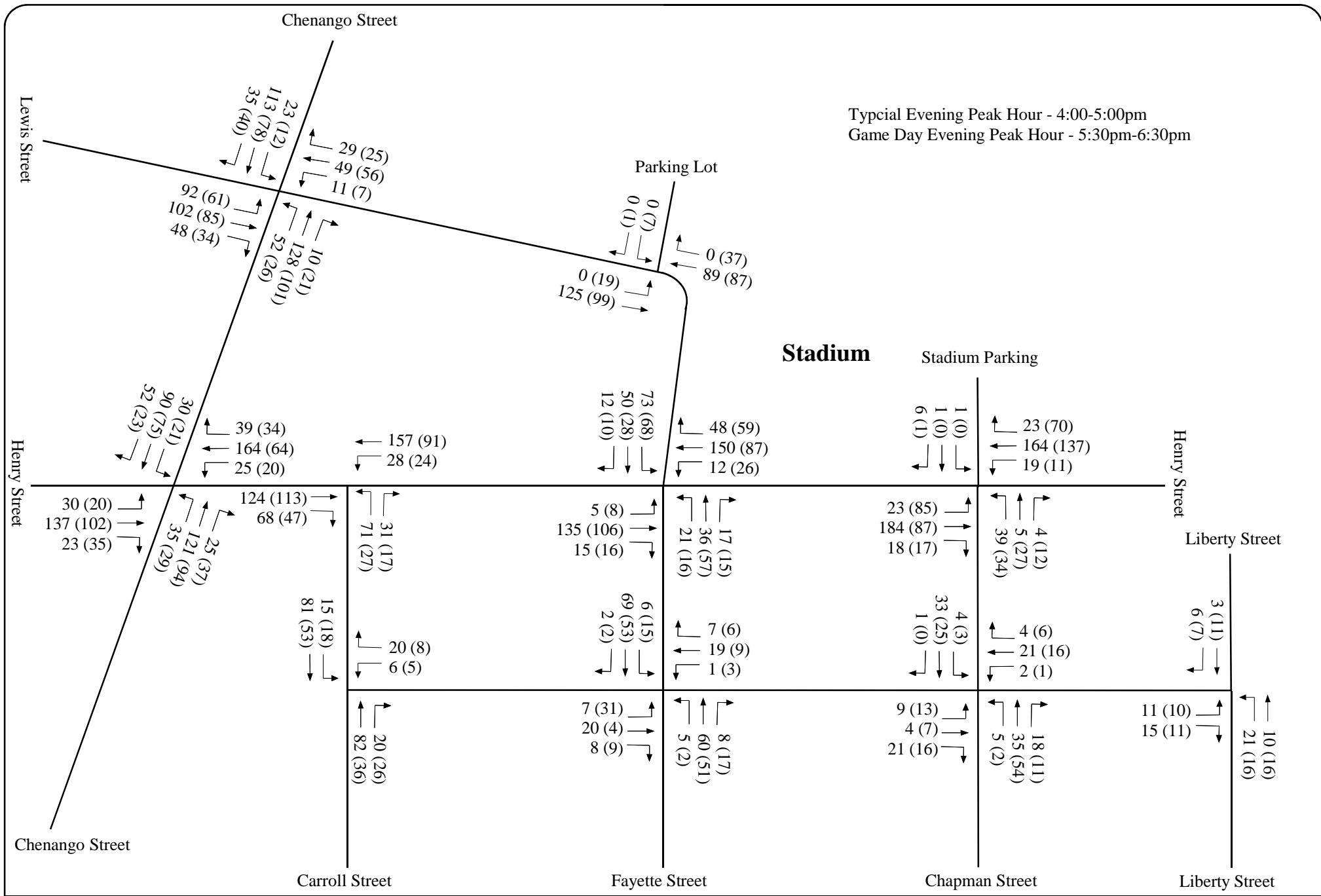
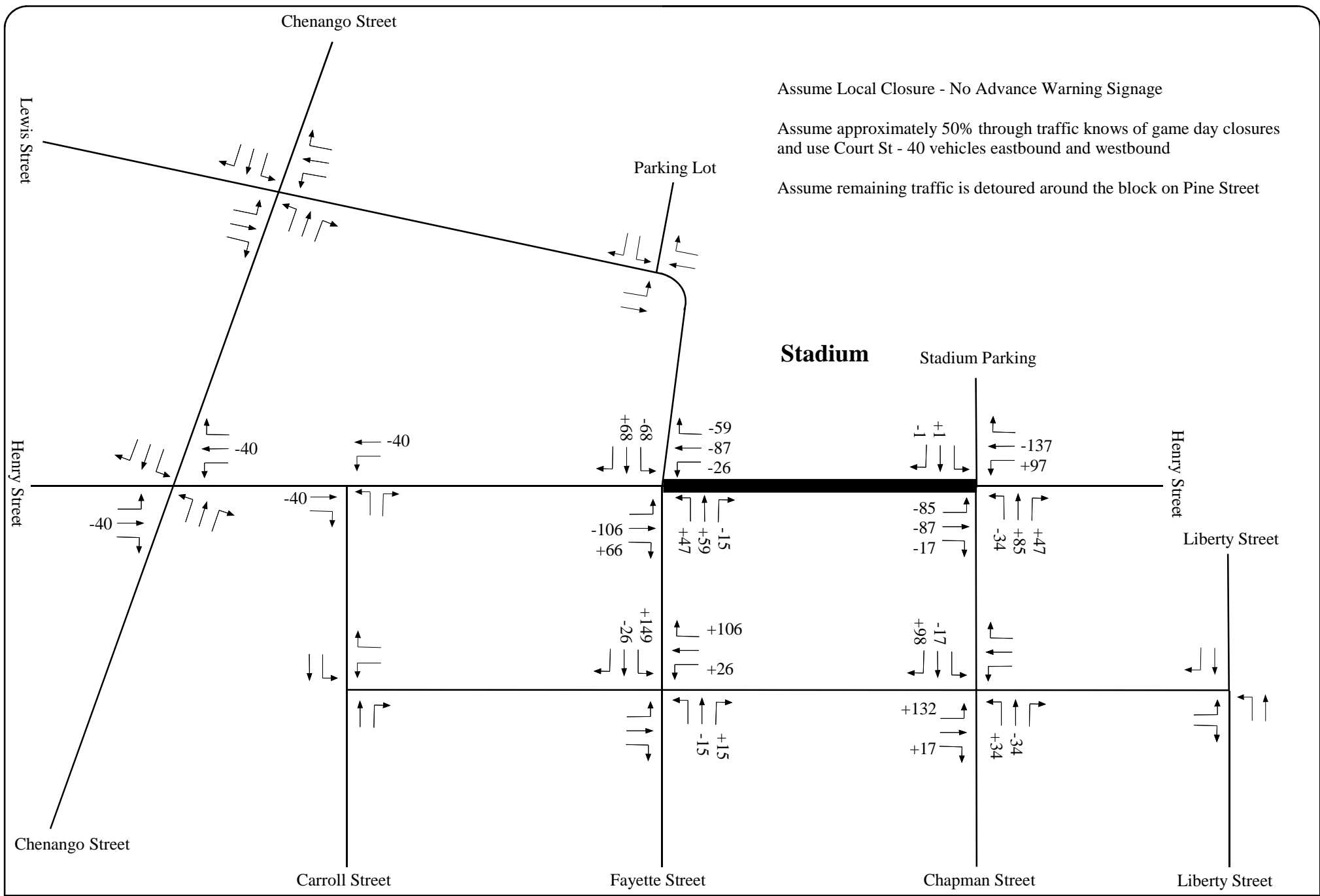


Figure 4

Not to Scale





Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

Trip Redistribution - Henry Street Closure Between Fayette & Chapman

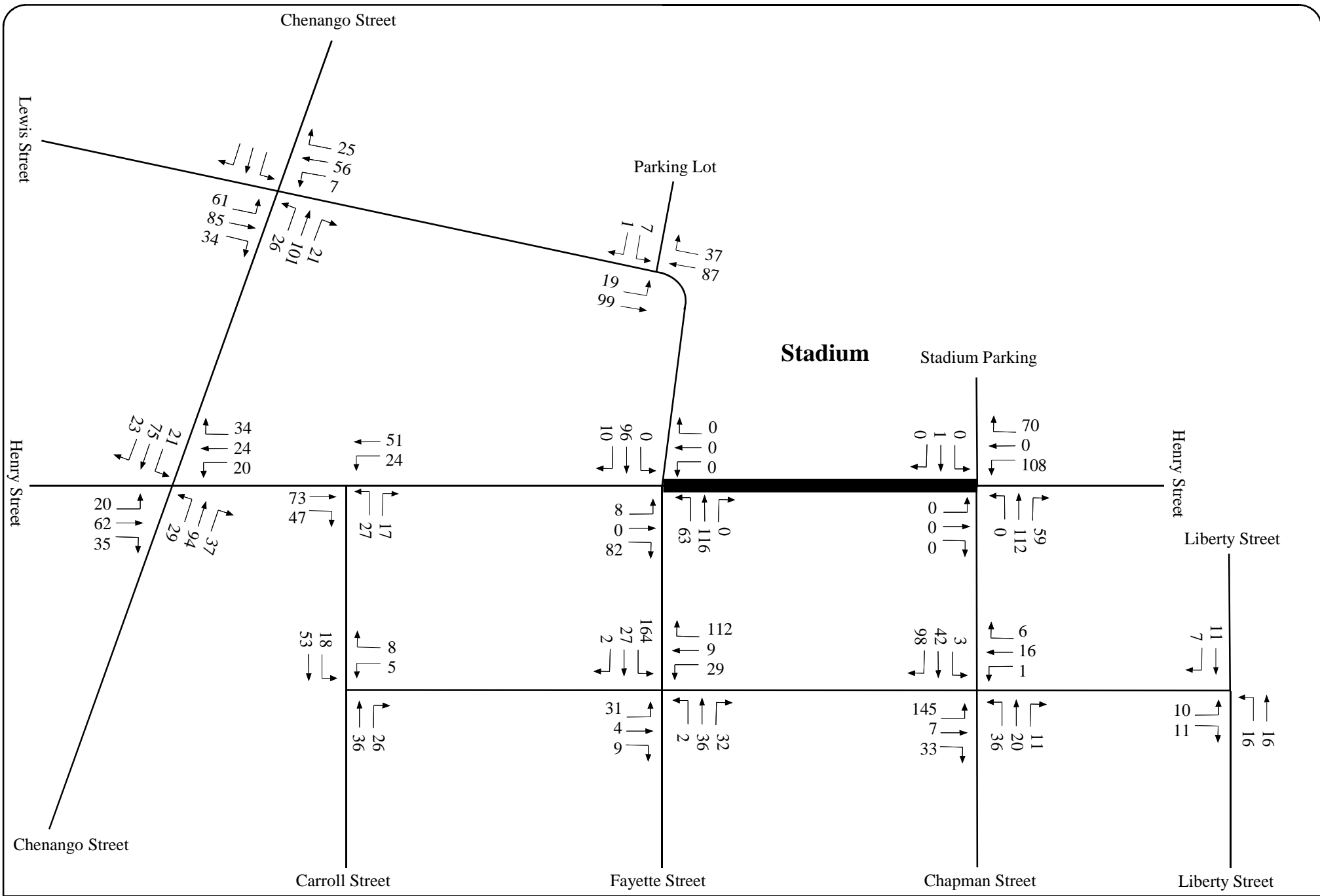
Game Day Weekday Evening Peak Hour

Figure 5

Not to Scale



GTS Consulting



Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

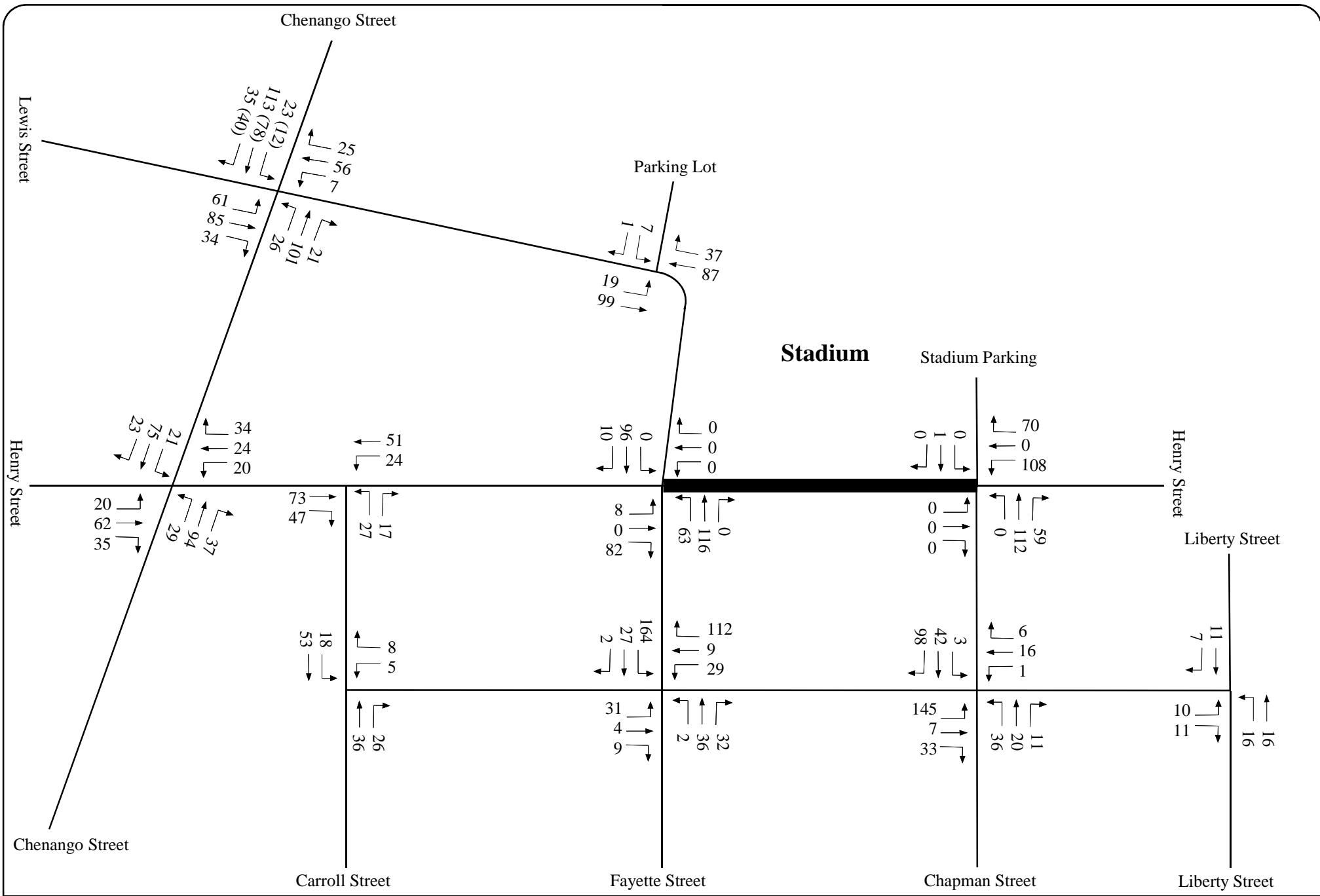
2021 Redistributed Traffic Volumes - With Two Way Operations on Pine Street, Centennial Plaza Closure, Henry Game Day Closure
 Game Day Weekday Evening Peak Hour

Figure 6

Not to Scale



GTS Consulting



Stadium District Master Plan Study - Traffic Analysis - Binghamton, NY

2021 Redistributed Traffic Volumes - With Two Way Operations on Pine Street, Centennial Plaza Closure, Henry Game Day Closure
 Game Day Weekday Evening Peak Hour

Figure 6

Not to Scale



GTS Consulting

Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Intersection Level of Service Summary – Evening Peak Hour – Existing Conditions

Intersection	Typical Day	Game Day
Henry Street @ Chapman Street / Stadium Parking	A(8)	A(8)
EB Left	A(7)	A(8)
EB Through/Right	A(8)	A(6)
WB Left	A(7)	A(7)
WB Through/Right	A(8)	A(6)
NB Left	B(16)	B(15)
NB Through/Right	B(12)	B(12)
SB Left	B(14)	A(0)
SB Through/Right	A(0)	A(0)
Henry Street @ Fayette Street	A(9)	A(9)
EB Left/Through/Right	A(8)	A(9)
WB Left/Through/	A(9)	A(8)
WB Right	A(3)	A(3)
NB Left/Through/Right	A(10)	B(11)
SB Left/Through/Right	B(13)	B(12)
Henry Street @ Carroll Street / Centennial Plaza	B(13)	A(9)
EB Through/Right	A(6)	A(7)
WB Left	B(13)	B(11)
WB Through	B(12)	A(8)
NB Left/Right	B(19)	B(16)
SB Left/Through/Right	B(16)	B(15)
Henry Street @ Chenango Street	B(19)	B(18)
EB Left/Through/Right	C(25)	C(21)
WB Left	B(12)	B(12)
WB Through	B(15)	B(13)
WB Right	A(4)	A(4)
NB Left/Through/Right	C(22)	B(20)
SB Left/Through/Right	B(18)	B(19)
Chenango Street @ Centennial Plaza		
NB Through/Right	a(0)	a(0)
SB Left/Through	a(1)	a(1)
Chenango Street @ Lewis Street	B(13)	B(11)
EB Left	B(13)	B(12)
EB Through/Right	A(10)	A(9)
WB Left	B(11)	B(11)
WB Through/Right	A(8)	A(9)
NB Left/Through/Right	B(17)	B(15)
SB Left	B(14)	B(14)
SB Through/Right	B(14)	B(11)
Pine Street @ Liberty Street		
EB Left/Right	a(9)	a(9)
NB Through	a(0)	a(0)
SB Through	a(0)	a(0)
Pine Street @ Chapman Street		
EB Left/Through/Right	a(9)	a(9)
NB Through/Right	a(0)	a(0)
SB Left	a(8)	a(7)
SB Through	a(0)	a(0)
Pine Street @ Fayette Street		
EB Left/Through/Right	a(8)	a(8)
NB Through/Right	a(8)	a(8)
SB Left/Through	a(8)	a(8)
Pine Street @ Carroll Street		
NB Through/Right	a(0)	a(0)
SB Left/Through	a(1)	a(1)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro

**Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Queue Summary – Evening Peak Hour – Existing Conditions**

Intersection	Available Storage	Typical Day	Game Day
Henry Street @ Chapman Street / Stadium Parking			
EB Left	270	13	34
EB Through/Right	890	66	33
WB Left	135	11	8
WB Through/Right	850	58	58
NB Left	135	29	27
NB Through/Right	215	10	25
SB Left	100	2	0
SB Through/Right	-	0	0
Henry Street @ Fayette Street			
EB Left/Through/Right	810	67	57
WB Left/Through/	890	56	43
WB Right	110	12	14
NB Left/Through/Right	215	31	34
SB Left/Through/Right	1,200	57	45
Henry Street @ Carroll Street / Centennial Plaza			
EB Through/Right	335	29	25
WB Left	115	23	21
WB Through	810	40	27
NB Left/Right	240	71	28
SB Left/Through/Right	245	36	25
Henry Street @ Chenango Street			
EB Left/Through/Right	250	76	57
WB Left	180	21	18
WB Through	335	106	44
WB Right	335	15	15
NB Left/Through/Right	650	139	118
SB Left/Through/Right	240	95	76
Chenango Street @ Centennial Plaza			
NB Through/Right	240	0	0
SB Left/Through	500	0	0
Chenango Street @ Lewis Street			
EB Left	80	54	38
EB Through/Right	350	65	51
WB Left	450	11	8
WB Through/Right	1,200	32	32
NB Left/Through/Right	500	111	84
SB Left	300	20	14
SB Through/Right	840	77	57
Pine Street @ Liberty Street			
EB Left/Right	750	3	3
NB Through	200	0	0
SB Through	250	0	0
Pine Street @ Chapman Street			
EB Left/Through/Right	850	3	3
NB Through/Right	235	0	0
SB Left	65	0	0
SB Through	215	0	0
Pine Street @ Fayette Street			
EB Left/Through/Right	800	5	5
NB Through/Right	240	10	10
SB Left/Through	215	15	8
Pine Street @ Carroll Street			
NB Through/Right	235	0	0
SB Left/Through	230	0	0

Available Storage and Queue Lengths in Feet, 95th Percentile Queue Lengths from Synchro Analysis

Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Intersection Level of Service Summary – Evening Peak Hour
Alternatives with Lane Reduction

Intersection	Lane Reduction Only		2-Way Pine Conversion		Close Centennial Plaza		Close Henry
	Typical Day	Game Day	Typical Day	Game Day	Typical Day	Game Day	Game Day
Pine Street @ Chapman Street							
EB Left/Through/Right	a(9)	a(9)	a(9)	a(9)	a(9)	a(9)	b(13)
WB Left/Through/Right	-	-	b(11)	a(10)	b(11)	a(10)	b(11)
NB (Left)/Through/Right	a(0)	a(0)	a(1)	a(1)	a(1)	a(1)	a(4)
SB Left	a(8)	a(7)	a(8)	a(7)	a(8)	a(7)	a(7)
SB Through/(Right)	a(0)	a(0)	a(1)	a(1)	a(1)	a(1)	a(1)
Pine Street @ Fayette Street							
EB Left/Through/Right	a(8)	a(8)	a(8)	a(8)	a(8)	a(8)	a(9)
WB Left/Through/Right	-	-	a(8)	a(8)	a(8)	a(8)	a(9)
NB (Left)/Through/Right	a(8)	a(8)	a(8)	a(7)	a(8)	a(7)	a(10)
SB Left/Through/(Right)	a(8)	a(8)	a(8)	a(8)	a(8)	a(8)	b(11)
Pine Street @ Carroll Street							
WB Left/Right	-	-	a(10)	b(12)	a(10)	b(12)	b(12)
NB Through/Right	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
SB Left/Through	a(1)	a(1)	a(1)	a(2)	a(1)	a(2)	a(2)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro

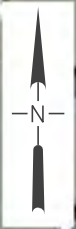
Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Queue Summary – Evening Peak Hour
Alternatives with Lane Reduction

Intersection	Available Storage	Lane Reduction Only		2-Way Pine Conversion		Close Centennial Plaza		Close Henry
		Typical Day	Game Day	Typical Day	Game Day	Typical Day	Game Day	Game Day
Henry Street @ Chapman Street / Stadium Parking								
EB Through/Right	890	76	63	76	63	76	63	-
WB Through/Right	850	66	63	64	60	64	60	46
NB Left	135	29	27	29	27	29	27	80
NB Through/Right	215	10	25	10	25	10	25	2
SB Left	100	2	0	2	0	2	0	0
SB Through/Right	-	0	0	5	0	5	0	0
Henry Street @ Fayette Street								
EB Left/Through/Right	810	30	41	30	41	41	47	0
WB Left/Through/Right	890	63	48	61	47	61	47	-
NB Left/Through/Right	215	31	34	31	34	31	34	74
SB Left/Through/Right	1,200	57	45	57	46	57	46	44
Henry Street @ Carroll Street / Centennial Plaza								
EB Through/Right	335	22	44	22	44	46	53	45
WB Left/Through	810	91	63	89	61	89	61	48
NB Left/Right	240	71	34	71	34	68	34	34
SB Left/Through/Right	245	34	15	34	15	-	-	-
Henry Street @ Chenango Street								
EB Left/Through/Right	250	118	92	118	92	118	92	66
WB Left/Through/Right	335	180	31	190	31	141	30	24
NB Left/Through/Right	650	116	98	116	98	113	100	96
SB Left/Through/Right	240	78	63	78	63	98	69	69
Chenango Street @ Centennial Plaza								
NB Through/Right	240	0	0	0	0	-	-	-
SB Left/Through	500	0	0	0	0	-	-	-
Chenango Street @ Lewis Street								
EB Left	80	54	38	54	38	54	38	38
EB Through/Right	350	65	51	65	51	65	51	51
WB Left	450	11	8	11	8	11	8	8
WB Through/Right	1,200	32	32	32	32	32	32	32
NB Left/Through/Right	500	111	84	111	84	111	49	84
SB Left	300	20	14	20	14	20	4	14
SB Through/Right	840	77	57	77	57	77	24	57
Pine Street @ Liberty Street								
EB Left/Right	750	3	3	3	3	3	3	3
NB (Left)/Through	200	0	0	3	3	3	3	3
SB Through/(Right)	250	0	0	0	0	0	0	0

Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Queue Summary – Evening Peak Hour
Alternatives with Lane Reduction

Intersection	Available Storage	Lane Reduction Only		2-Way Pine Conversion		Close Centennial Plaza		Close Henry
		Typical Day	Game Day	Typical Day	Game Day	Typical Day	Game Day	Game Day
Pine Street @ Chapman Street								
EB Left/Through/Right	850	3	3	3	5	3	5	35
WB Left/Through/Right	750	-	-	3	3	3	3	3
NB (Left)/Through/Right	235	0	0	0	0	0	0	3
SB Left	65	0	0	0	0	0	0	0
SB Through/(Right)	215	0	0	0	0	0	0	0
Pine Street @ Fayette Street								
EB Left/Through/Right	800	5	5	5	5	5	5	8
WB Left/Through/Right	850	-	-	5	3	5	3	35
NB (Left)/Through/Right	240	10	10	10	10	10	10	13
SB Left/Through/(Right)	215	15	8	15	8	15	8	30
Pine Street @ Carroll Street								
WB Left/Right	800	-	-	5	3	5	3	3
NB Through/Right	235	0	0	0	0	0	0	0
SB Left/Through	230	0	0	0	3	0	3	3

Available Storage and Queue Lengths in Feet, 95th Percentile Queue Lengths from Synchro Analysis



CHENANGO STREET

KENNEDY PARK

CENTENNIAL PLAZA

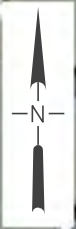
POTENTIAL NEW CURB LINE

WB-40 TRACTOR TRAILER

HENRY STREET

CHENANGO-HENRY INTERSECTION CONCEPT PLAN





CHENANGO STREET

KENNEDY PARK

CENTENNIAL PLAZA

HENRY STREET

POTENTIAL NEW CURB LINE

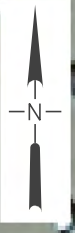
WB-62 TRACTOR TRAILER

IB-42 Interstate Semi-Trailer



CHENANGO-HENRY INTERSECTION CONCEPT PLAN





CHENANGO STREET

CENTENNIAL PLAZA

KENNEDY PARK

HENRY STREET

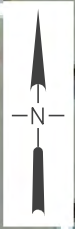
POTENTIAL NEW CURB LINE

WB-40 TRACTOR TRAILER

Intermediate Center

CHENANGO-HENRY
INTERSECTION CONCEPT PLAN
WITH ROAD DIET





CHENANGO STREET

KENNEDY PARK

CENTENNIAL PLAZA

HENRY STREET

POTENTIAL NEW CURB LINE

WB-62 TRACTOR TRAILER

WB-62 - Intermodal Semi-Trailer

WB-62 - Intermodal Semi-Trailer



4

3

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WB-62

CHENANGO-HENRY INTERSECTION CONCEPT PLAN WITH ROAD DIET



Background Traffic Growth Calculations

Stadium District Master Plan Study - Binghamton, NY

Historical Traffic Counts Taken from the NYSDOT Traffic Data Viewer

Henry Street - Between Chenango Street and Liberty Street

2019 (Est)	2018	2014	2011
3,644 veh	3,677 veh	3,947 veh	4,456 veh
-0.1% per year		-1.7% per year	
-1.5% per year		-3.8% per year	
-2.3% per year			

Historical Growth is Negative, No Adjustments to Historical Counts are Necessary

Binghamton Metropolitan Transportation Study

44 Hawley Street
Binghamton, NY 13902

Kevin Bligh
Chapman St and Henry St
Binghamton
Sunny

File Name : Chapman St and Henry St Kevin St Kevin 2017 PM
Site Code : 26
Start Date : 6/2/2017
Page No : 1

Start Time	Groups Printed- Unshifted - Heavy Vehicles - Bicycles															
	CHAPMAN				CHAPMAN				HENRY							
	From North		From East		From South		From West		From South		From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	0	0	0	0	35	2	1	8	0	11	6	27	0	2	35	81
03:15 PM	1	0	0	0	52	4	0	9	0	13	6	38	1	0	45	111
03:30 PM	1	1	0	2	37	4	0	16	0	20	6	30	1	3	40	101
03:45 PM	0	0	0	0	55	2	1	12	0	15	3	44	2	1	50	120
Total	2	1	0	2	179	12	2	45	0	59	21	139	4	6	170	413
04:00 PM	1	0	1	0	63	5	1	10	0	16	7	53	2	0	62	143
04:15 PM	1	0	0	0	41	1	2	8	1	12	8	43	7	0	58	112
04:30 PM	1	0	0	3	42	0	0	9	1	10	2	43	2	1	48	104
04:45 PM	1	0	0	1	52	0	2	13	1	16	5	25	7	5	42	112
Total	4	0	1	4	198	6	5	40	3	54	22	164	18	6	210	471
05:00 PM	3	0	1	3	70	3	1	9	1	14	3	42	7	0	52	143
05:15 PM	2	2	1	1	70	2	3	11	1	17	2	29	7	0	38	131
Grand Total	11	3	3	10	517	23	11	105	5	144	48	374	36	12	470	1158
Approach %	40.7	11.1	11.1	37	11.6	16	7.6	72.9	3.5	10.2	79.6	7.7	2.6			
Total %	0.9	0.3	0.3	0.9	2.7	2	0.9	9.1	0.4	12.4	4.1	32.3	3.1	1	40.6	
Unshifted	9	3	3	10	500	22	11	96	5	134	44	349	34	12	439	1098
% Unshifted	81.8	100	100	100	96.7	95.7	100	91.4	100	93.1	91.7	93.3	94.4	100	93.4	94.8
Heavy Vehicles	2	0	0	0	14	1	0	8	0	9	4	21	2	0	27	52
% Heavy Vehicles	18.2	0	0	0	2.7	4.3	0	7.6	0	6.2	8.3	5.6	5.6	0	5.7	4.5
Bicycles	0	0	0	0	3	0	0	1	0	1	0	4	0	0	4	8
% Bicycles	0	0	0	0	0.6	0	0	1	0	0.7	0	1.1	0	0	0.9	0.7

Binghamton Metropolitan Transportation Study

44 Hawley Street
Binghamton, NY 13902

Kevin Bligh
Fayette St and Henry St
Binghamton
Sunny

File Name : Fayette St and Henry St Kevin St Kevin 2017 PM
Site Code : 25
Start Date : 6/1/2017
Page No : 1

Start Time	Groups Printed- Unshifted - Heavy Vehicles - Bicycles																				
	FAYETTE						HENRY														
	From North			From East			From South			From West											
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total					
03:00 PM	6	10	16	0	32	9	19	0	0	28	3	5	4	0	12	5	15	0	0	20	92
03:15 PM	1	8	12	2	23	16	33	3	1	53	0	10	8	1	19	4	25	0	2	31	126
03:30 PM	2	12	11	4	29	17	25	3	1	46	1	5	4	2	12	3	21	0	4	28	115
03:45 PM	8	11	17	2	38	17	25	3	2	47	1	15	8	5	29	2	33	1	2	38	152
Total	17	41	56	8	122	59	102	9	4	174	5	35	24	8	72	14	94	1	8	117	485
04:00 PM	2	12	15	1	30	14	23	3	1	41	6	7	7	1	21	0	17	1	4	22	114
04:15 PM	7	9	23	2	41	13	24	1	1	39	9	10	6	0	25	4	23	0	2	29	134
04:30 PM	2	10	19	1	32	14	16	4	2	36	1	12	2	5	20	2	26	3	1	32	120
04:45 PM	3	10	16	1	30	10	39	2	0	51	4	6	4	1	15	5	25	2	1	33	129
Total	14	41	73	5	133	51	102	10	4	167	20	35	19	7	81	11	91	6	8	116	497
05:00 PM	2	9	15	0	26	7	23	6	1	37	3	8	9	2	22	4	32	0	0	36	121
05:15 PM	5	4	13	0	22	11	22	0	1	34	0	12	9	21	42	1	23	1	5	30	128
Grand Total	38	95	157	13	303	128	249	25	10	412	28	90	61	38	217	30	240	8	21	299	1231
Approach %	12.5	31.4	51.8	4.3		31.1	60.4	6.1	2.4		12.9	41.5	28.1	17.5		10	80.3	2.7	7		
Total %	3.1	7.7	12.8	1.1	24.6	10.4	20.2	2	0.8	33.5	2.3	7.3	5	3.1	17.6	2.4	19.5	0.6	1.7	24.3	
Unshifted	38	85	142	13	278	115	237	24	10	386	25	85	57	38	205	27	228	7	21	283	1152
% Unshifted	100	89.5	90.4	100	91.7	89.8	95.2	96	100	93.7	89.3	94.4	93.4	100	94.5	90	95	87.5	100	94.6	93.6
Heavy Vehicles	0	10	13	0	23	11	9	0	0	20	1	2	3	0	6	2	9	1	0	12	61
% Heavy Vehicles	0	10.5	8.3	0	7.6	8.6	3.6	0	0	4.9	3.6	2.2	4.9	0	2.8	6.7	3.8	12.5	0	4	5
Bicycles	0	0	2	0	2	2	3	1	0	6	2	3	1	0	6	1	3	0	0	4	18
% Bicycles	0	0	1.3	0	0.7	1.6	1.2	4	0	1.5	7.1	3.3	1.6	0	2.8	3.3	1.2	0	0	1.3	1.5

Binghamton Metropolitan Transportation Study

44 Hawley Street
Binghamton, NY 13902

Kevin Bligh
Carroll St and Henry St
Binghamton
Overcast/Light Showers

File Name : Carroll St and Henry St Kevin 2017 PM
Site Code : 24
Start Date : 5/31/2017
Page No : 1

Start Time	Groups Printed- Unshifted - Heavy Vehicles - Bicycles																				
	CARROLL From North					HENRY From East					CARROLL From South					HENRY From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	1	8	4	7	20	0	46	5	2	53	6	1	9	7	23	22	34	1	14	71	167
03:15 PM	0	8	3	6	17	0	34	10	4	48	8	0	17	6	31	11	18	1	5	35	131
03:30 PM	0	6	1	7	14	0	41	24	2	67	10	0	12	2	24	11	30	1	11	53	158
03:45 PM	0	11	2	3	16	0	33	11	5	49	6	0	10	5	21	8	27	1	6	42	128
Total	1	33	10	23	67	0	154	50	13	217	30	1	48	20	99	52	109	4	36	201	584
04:00 PM	0	6	2	0	8	0	30	10	3	43	6	0	16	2	24	15	25	2	3	45	120
04:15 PM	1	3	2	7	13	0	38	14	1	53	8	0	7	5	20	14	25	2	6	47	133
04:30 PM	3	5	4	3	15	0	26	9	3	38	7	0	14	5	26	9	32	1	8	50	129
04:45 PM	0	4	1	1	6	0	43	13	0	56	6	0	9	2	17	11	25	1	7	44	123
Total	4	18	9	11	42	0	137	46	7	190	27	0	46	14	87	49	107	6	24	186	505
05:00 PM	0	11	6	2	19	0	30	15	3	48	10	0	19	2	31	11	29	0	2	42	140
05:15 PM	1	4	4	0	9	0	19	12	2	33	3	0	14	5	22	7	26	0	2	35	99
Grand Total	6	66	29	36	137	0	340	123	25	488	70	1	127	41	239	119	271	10	64	464	1328
Approach %	4.4	48.2	21.2	26.3		0	69.7	25.2	5.1		29.3	0.4	53.1	17.2		25.6	58.4	2.2	13.8		
Total %	0.5	5	2.2	2.7	10.3	0	25.6	9.3	1.9	36.7	5.3	0.1	9.6	3.1	18	9	20.4	0.8	4.8	34.9	
% Unshifted	6	44	26	36	112	0	331	121	25	477	68	0	112	41	221	109	259	9	64	441	1251
% Heavy Vehicles	100	66.7	89.7	100	81.8	0	97.4	98.4	100	97.7	97.1	0	88.2	100	92.5	91.6	95.6	90	100	95	94.2
% Heavy Vehicles	0	20	2	0	22	0	5	1	0	6	1	0	15	0	16	7	8	0	0	15	59
% Heavy Vehicles	0	30.3	6.9	0	16.1	0	1.5	0.8	0	1.2	1.4	0	11.8	0	6.7	5.9	3	0	0	3.2	4.4
Bicycles	0	2	1	0	3	0	4	1	0	5	1	1	0	0	2	3	4	1	0	8	18
% Bicycles	0	3	3.4	0	2.2	0	1.2	0.8	0	1	1.4	100	0	0	0.8	2.5	1.5	10	0	1.7	1.4

Binghamton Metropolitan Transportation Study

44 Hawley Street
Binghamton, NY 13902

Lucille Dellos
Henry/Chenango
City of Binghamton
cloudy

File Name : Henry and Chenango Lucille 2017 PM
Site Code : 23
Start Date : 5/26/2017
Page No : 1

Groups Printed- Unshifted - heavy vehicles - bicycles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	5	15	4	2	26	6	21	7	0	34	3	24	7	2	36	5	42	3	9	59	155
03:15 PM	0	41	19	2	62	3	39	12	3	57	5	26	1	4	36	6	42	6	8	62	217
03:30 PM	13	32	15	5	65	16	40	7	3	66	3	28	8	8	47	12	36	5	4	57	235
03:45 PM	9	58	10	8	85	6	58	16	2	82	6	67	6	1	80	3	35	5	2	45	292
Total	27	146	48	17	238	31	158	42	8	239	17	145	22	15	199	26	155	19	23	223	899
04:00 PM	3	35	15	8	61	2	35	11	5	53	7	24	5	6	42	8	35	5	10	58	214
04:15 PM	1	27	6	3	37	5	62	13	10	90	1	45	8	8	62	4	50	5	8	67	256
04:30 PM	3	27	11	2	43	4	44	18	5	71	11	22	4	11	48	9	24	6	3	42	204
04:45 PM	3	15	12	4	34	8	46	7	3	64	11	25	3	13	52	9	29	5	6	49	199
Total	10	104	44	17	175	19	187	49	23	278	30	116	20	38	204	30	138	21	27	216	873
05:00 PM	2	21	9	3	35	8	38	21	0	67	12	44	3	1	60	8	48	7	10	73	235
05:15 PM	0	13	18	5	36	1	28	6	2	37	7	41	6	2	56	8	45	3	1	57	186
Grand Total	39	284	119	42	484	59	411	118	33	621	66	346	51	56	519	72	386	50	61	569	2193
Apprch %	8.1	58.7	24.6	8.7		9.5	66.2	19	5.3		12.7	66.7	9.8	10.8		12.7	67.8	8.8	10.7		
Total %	1.8	13	5.4	1.9	22.1	2.7	18.7	5.4	1.5	28.3	3	15.8	2.3	2.6	23.7	3.3	17.6	2.3	2.8	25.9	
Unshifted	38	280	118	42	478	59	399	113	33	604	65	342	49	56	512	70	382	48	61	561	2155
% Unshifted	97.4	98.6	99.2	100	98.8	100	97.1	95.8	100	97.3	98.5	98.8	96.1	100	98.7	97.2	99	96	100	98.6	98.3
heavy vehicles	1	3	1	0	5	0	10	5	0	15	0	1	1	0	2	2	2	1	0	5	27
% heavy vehicles	2.6	1.1	0.8	0	1	0	2.4	4.2	0	2.4	0	0.3	2	0	0.4	2.8	0.5	2	0	0.9	1.2
bicycles	0	1	0	0	1	0	2	0	0	2	1	3	1	0	5	0	2	1	0	3	11
% bicycles	0	0.4	0	0	0.2	0	0.5	0	0	0.3	1.5	0.9	2	0	1	0	0.5	2	0	0.5	0.5

Binghamton Metropolitan Transportation Study

PO Box 1766
Binghamton, NY 13902

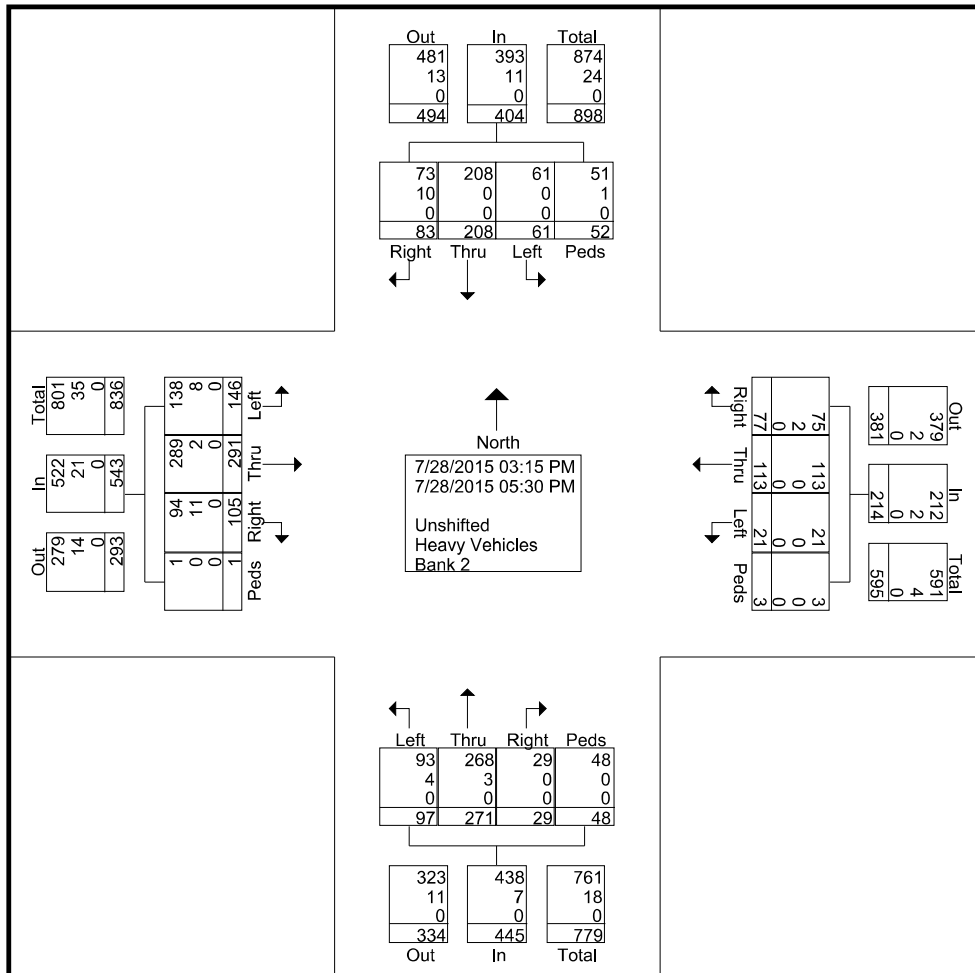
Your Tagline Here

Bobby Portorsnok
Lewis and Chenango
Binghamton
It's getting hot out here

File Name : Not Named 4
Site Code : 32
Start Date : 7/28/2015
Page No : 1

Groups Printed- Unshifted - Heavy Vehicles - Bank 2

Start Time	From North					From East					From South					From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:15 PM	6	27	6	2	41	6	10	3	1	20	4	22	5	3	34	8	35	16	0	59	154
03:30 PM	7	24	7	2	40	5	11	1	0	17	5	25	9	16	55	12	35	20	0	67	179
03:45 PM	6	16	5	6	33	7	9	0	0	16	3	25	9	1	38	4	38	16	0	58	145
Total	19	67	18	10	114	18	30	4	1	53	12	72	23	20	127	24	108	52	0	184	478
04:00 PM	11	21	3	4	39	14	16	1	0	31	2	21	6	4	33	16	27	14	0	57	160
04:15 PM	13	28	8	6	55	8	10	3	0	21	3	31	13	6	53	11	26	16	1	54	183
04:30 PM	11	18	5	2	36	10	13	5	1	29	3	29	11	4	47	8	37	14	0	59	171
04:45 PM	6	23	10	4	43	3	12	1	0	16	0	34	7	5	46	20	33	12	0	65	170
Total	41	90	26	16	173	35	51	10	1	97	8	115	37	19	179	55	123	56	1	235	684
05:00 PM	5	20	8	7	40	8	8	2	1	19	4	25	21	4	54	9	16	18	0	43	156
05:15 PM	8	15	4	8	35	9	14	2	0	25	2	30	7	1	40	6	27	12	0	45	145
05:30 PM	10	16	5	11	42	7	10	3	0	20	3	29	9	4	45	11	17	8	0	36	143
Grand Total	83	208	61	52	404	77	113	21	3	214	29	271	97	48	445	105	291	146	1	543	1606
Approch %	20.5	51.5	15.1	12.9		36	52.8	9.8	1.4		6.5	60.9	21.8	10.8		19.3	53.6	26.9	0.2		
Total %	5.2	13	3.8	3.2	25.2	4.8	7	1.3	0.2	13.3	1.8	16.9	6	3	27.7	6.5	18.1	9.1	0.1	33.8	
Unshifted	73	208	61	51	393	75	113	21	3	212	29	268	93	48	438	94	289	138	1	522	1565
% Unshifted	88	100	100	98.1	97.3	97.4	100	100	100	99.1	100	98.9	95.9	100	98.4	89.5	99.3	94.5	100	96.1	97.4
Heavy Vehicles																					
% Heavy Vehicles	12	0	0	1.9	2.7	2.6	0	0	0	0.9	0	1.1	4.1	0	1.6	10.5	0.7	5.5	0	3.9	2.6
Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



File Name : Pine @ Liberty - Typical Day - 9-23-2021

Site Code : 00000007

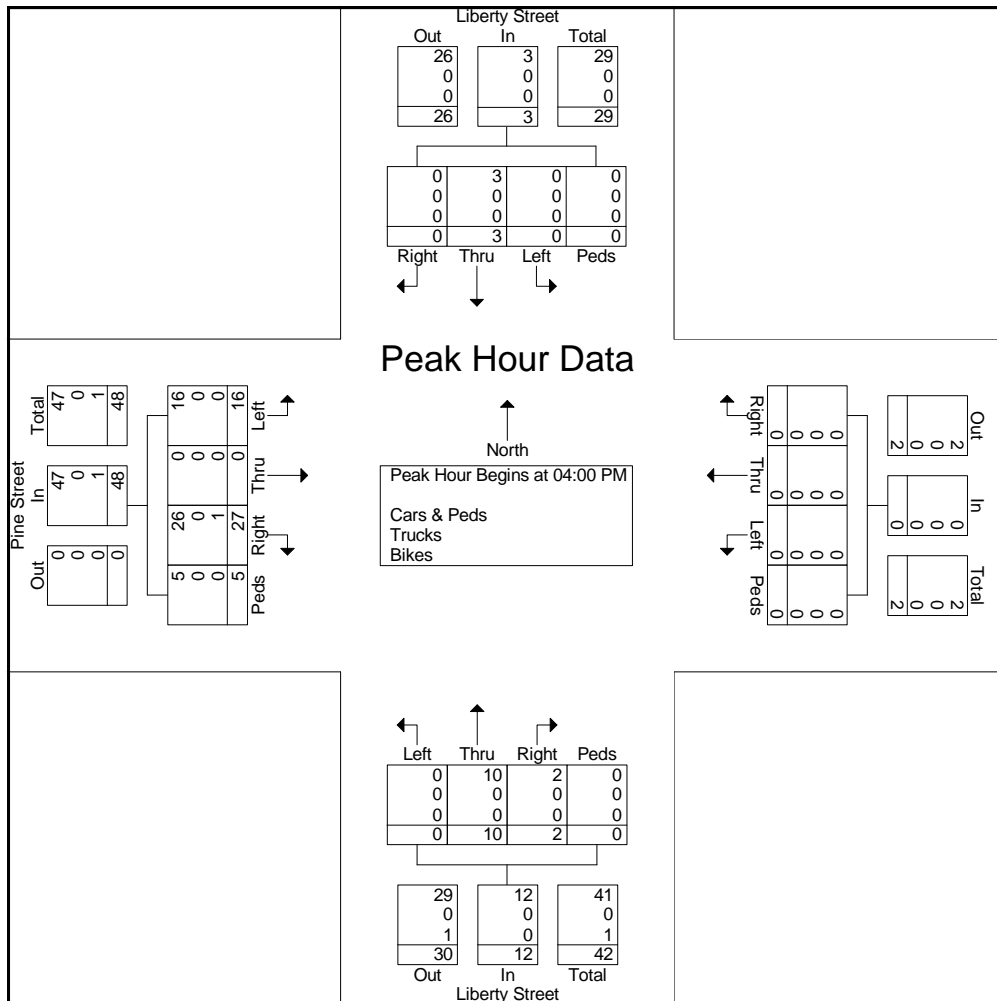
Start Date : 9/23/2021

Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Liberty Street Southbound				Westbound				Liberty Street Northbound				Pine Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	1	0	0	0	0	0	0	0	4	0	0	13	0	8	0	26
04:15 PM	0	1	0	0	0	0	0	0	0	3	0	0	4	0	4	4	16
04:30 PM	0	0	0	0	0	0	0	0	1	3	0	0	7	0	4	1	16
04:45 PM	0	1	0	0	0	0	0	0	1	0	0	0	3	0	0	0	5
Total	0	3	0	0	0	0	0	0	2	10	0	0	27	0	16	5	63
05:00 PM	0	2	0	0	1	0	1	0	0	6	0	0	1	0	0	2	13
05:15 PM	1	1	0	0	0	0	0	0	0	3	3	0	2	0	1	1	12
05:30 PM	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
05:45 PM	0	1	0	0	0	0	0	0	0	2	0	0	1	0	2	0	6
Total	1	5	0	0	1	0	2	0	0	12	3	0	4	0	3	3	34
Grand Total	1	8	0	0	1	0	2	0	2	22	3	0	31	0	19	8	97
Apprch %	11.1	88.9	0	0	33.3	0	66.7	0	7.4	81.5	11.1	0	53.4	0	32.8	13.8	
Total %	1	8.2	0	0	1	0	2.1	0	2.1	22.7	3.1	0	32	0	19.6	8.2	
Cars & Peds	0	6	0	0	1	0	2	0	2	22	0	0	30	0	19	8	90
% Cars & Peds	0	75	0	0	100	0	100	0	100	100	0	0	96.8	0	100	100	92.8
Trucks	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.1
Bikes	1	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	5
% Bikes	100	0	0	0	0	0	0	0	0	0	100	0	3.2	0	0	0	5.2

Start Time	Liberty Street Southbound					Westbound					Liberty Street Northbound					Pine Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	13	0	8	0	21	26
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4	0	4	4	12	16
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	7	0	4	1	12	16
04:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	3	0	0	0	3	5
Total Volume	0	3	0	0	3	0	0	0	0	0	2	10	0	0	12	27	0	16	5	48	63
% App. Total	0	100	0	0		0	0	0	0		16.7	83.3	0	0		56.2	0	33.3	10.4		
PHF	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.500	.625	.000	.000	.750	.519	.000	.500	.313	.571	.606
Cars & Peds	0	100	0	0	100	0	0	0	0	0	100	100	0	0	100	96.3	0	100	100	97.9	98.4
% Cars & Peds	0	100	0	0	100	0	0	0	0	0	100	100	0	0	100	96.3	0	100	100	97.9	98.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.7	0	0	0	2.1	1.6

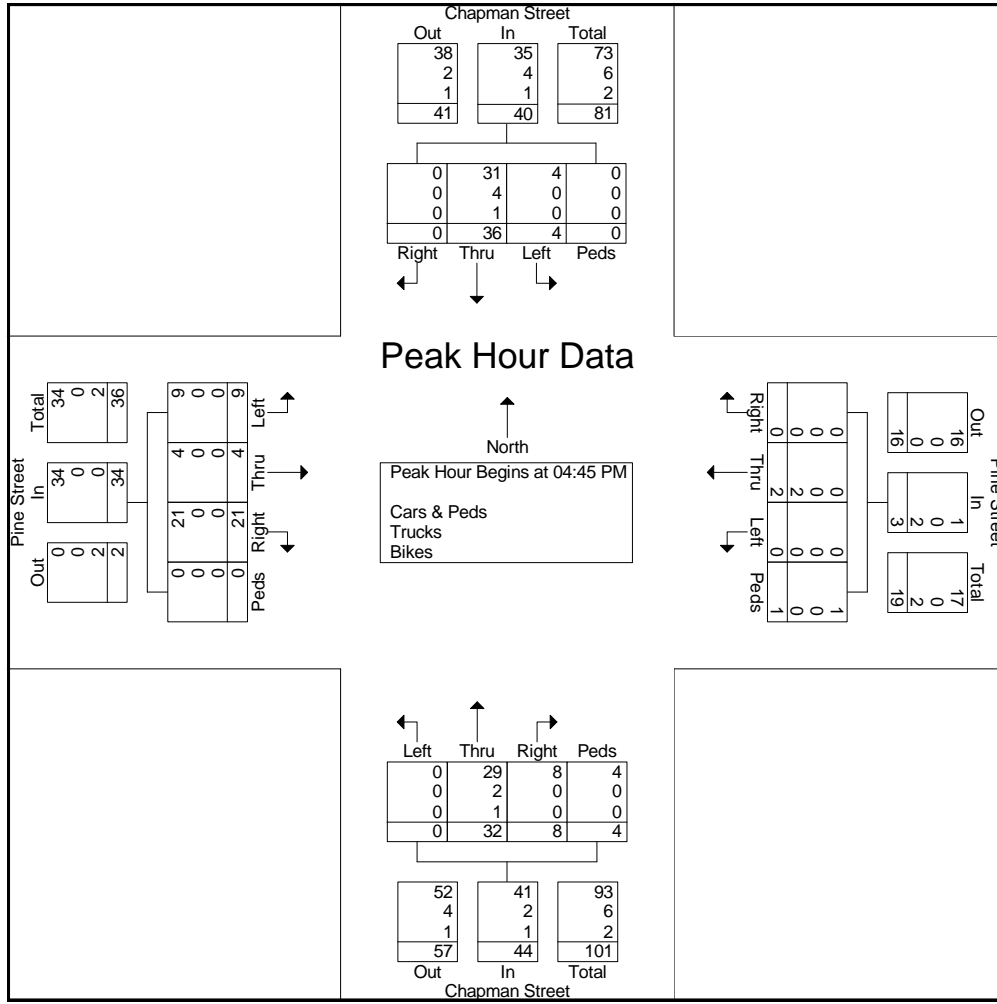


File Name : Pine @ Chapman - Typical Day - 9-23-2021
 Site Code : 00000008
 Start Date : 9/23/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Chapman Street Southbound				Pine Street Westbound				Chapman Street Northbound				Pine Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	11	0	0	0	0	0	1	1	4	0	2	6	4	0	0	29
04:15 PM	0	5	1	0	0	0	0	0	0	6	0	1	7	4	3	0	27
04:30 PM	0	8	2	0	0	0	0	0	1	3	0	0	4	2	1	1	22
04:45 PM	0	6	2	0	0	0	0	0	1	8	0	0	5	2	3	0	27
Total	0	30	5	0	0	0	0	1	3	21	0	3	22	12	7	1	105
05:00 PM	0	18	1	0	0	0	0	0	2	5	0	1	7	1	2	0	37
05:15 PM	0	10	1	0	0	2	0	0	2	11	0	2	1	1	4	0	34
05:30 PM	0	2	0	0	0	0	0	1	3	8	0	1	8	0	0	0	23
05:45 PM	0	4	1	0	0	0	0	0	1	3	0	0	6	1	1	0	17
Total	0	34	3	0	0	2	0	1	8	27	0	4	22	3	7	0	111
Grand Total	0	64	8	0	0	2	0	2	11	48	0	7	44	15	14	1	216
Apprch %	0	88.9	11.1	0	0	50	0	50	16.7	72.7	0	10.6	59.5	20.3	18.9	1.4	
Total %	0	29.6	3.7	0	0	0.9	0	0.9	5.1	22.2	0	3.2	20.4	6.9	6.5	0.5	
Cars & Peds	0	56	8	0	0	0	0	2	11	41	0	7	44	15	14	1	199
% Cars & Peds	0	87.5	100	0	0	0	0	100	100	85.4	0	100	100	100	100	100	92.1
Trucks	0	7	0	0	0	0	0	0	0	5	0	0	0	0	0	0	12
% Trucks	0	10.9	0	0	0	0	0	0	0	10.4	0	0	0	0	0	0	5.6
Bikes	0	1	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5
% Bikes	0	1.6	0	0	0	100	0	0	0	4.2	0	0	0	0	0	0	2.3

Start Time	Chapman Street Southbound					Pine Street Westbound					Chapman Street Northbound					Pine Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	6	2	0	8	0	0	0	0	0	1	8	0	0	9	5	2	3	0	10	27
05:00 PM	0	18	1	0	19	0	0	0	0	0	2	5	0	1	8	7	1	2	0	10	37
05:15 PM	0	10	1	0	11	0	2	0	0	2	2	11	0	2	15	1	1	4	0	6	34
05:30 PM	0	2	0	0	2	0	0	0	1	1	3	8	0	1	12	8	0	0	0	8	23
Total Volume	0	36	4	0	40	0	2	0	1	3	8	32	0	4	44	21	4	9	0	34	121
% App. Total	0	90	10	0		0	66.7	0	33.3		18.2	72.7	0	9.1		61.8	11.8	26.5	0		
PHF	.000	.500	.500	.000	.526	.000	.250	.000	.250	.375	.667	.727	.000	.500	.733	.656	.500	.563	.000	.850	.818
Cars & Peds																					
% Cars & Peds	0	86.1	100	0	87.5	0	0	0	100	33.3	100	90.6	0	100	93.2	100	100	100	0	100	91.7
Trucks	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
% Trucks	0	11.1	0	0	10.0	0	0	0	0	0	0	6.3	0	0	4.5	0	0	0	0	0	5.0
Bikes	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	4
% Bikes	0	2.8	0	0	2.5	0	100	0	0	66.7	0	3.1	0	0	2.3	0	0	0	0	0	3.3

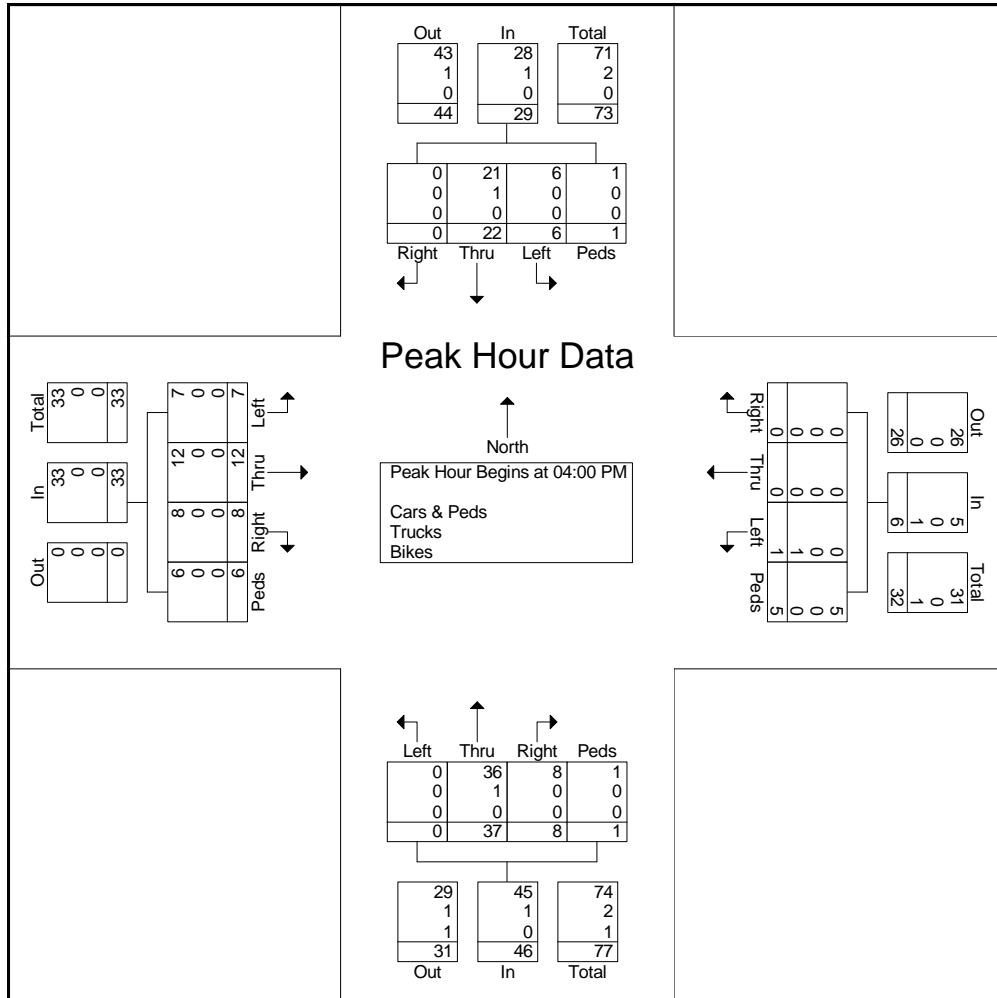


File Name : Pine @ Fayette - Typical Day - 9-23-2021
 Site Code : 00000009
 Start Date : 9/23/2021
 Page No : 1

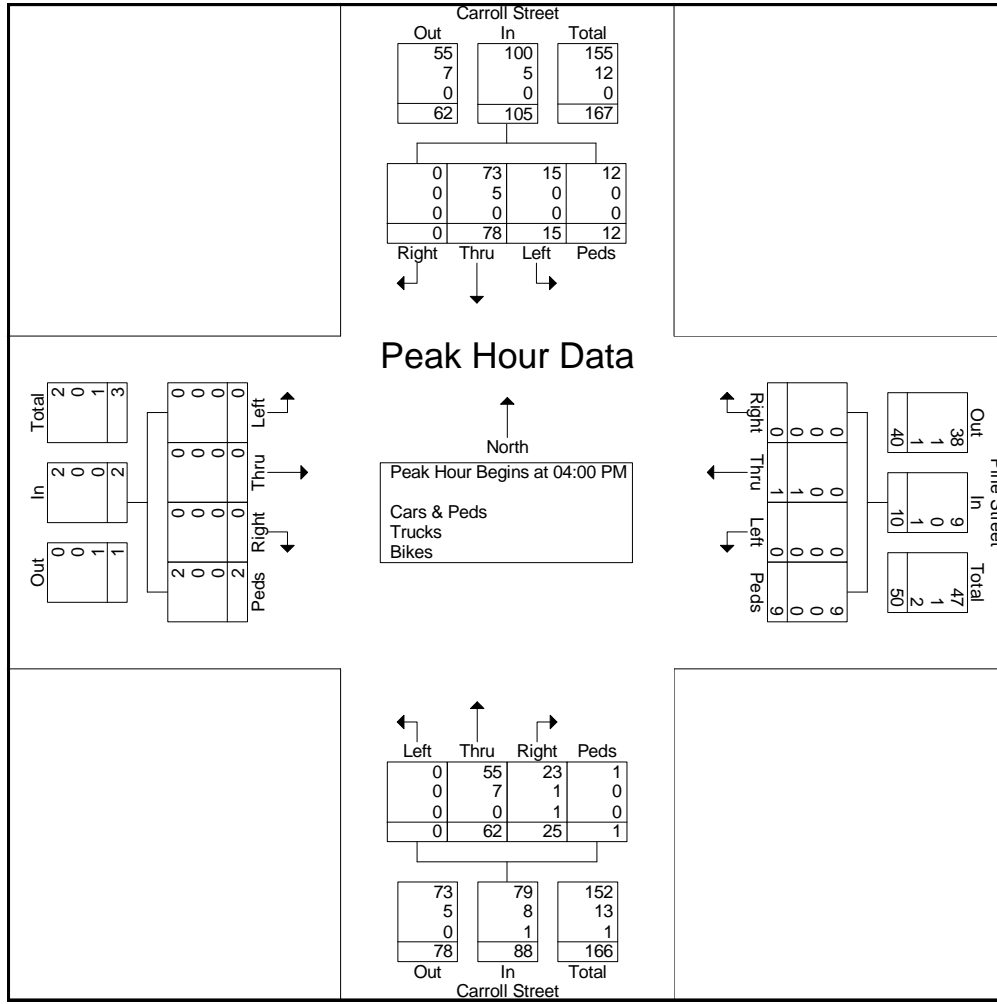
Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Southbound				Westbound				Northbound				Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	8	4	1	0	0	1	1	2	6	0	0	3	4	4	1	35
04:15 PM	0	2	2	0	0	0	0	2	1	9	0	0	0	2	1	3	22
04:30 PM	0	9	0	0	0	0	0	0	1	11	0	0	2	3	1	0	27
04:45 PM	0	3	0	0	0	0	0	2	4	11	0	1	3	3	1	2	30
Total	0	22	6	1	0	0	1	5	8	37	0	1	8	12	7	6	114
05:00 PM	0	7	1	0	0	0	0	0	1	6	0	0	4	2	0	2	23
05:15 PM	0	9	2	0	0	3	0	2	1	6	1	0	2	2	0	0	28
05:30 PM	0	4	0	1	0	0	0	4	1	8	0	0	3	1	2	0	24
05:45 PM	0	1	0	0	0	0	1	0	3	4	0	1	2	5	2	1	20
Total	0	21	3	1	0	3	1	6	6	24	1	1	11	10	4	3	95
Grand Total	0	43	9	2	0	3	2	11	14	61	1	2	19	22	11	9	209
Apprch %	0	79.6	16.7	3.7	0	18.8	12.5	68.8	17.9	78.2	1.3	2.6	31.1	36.1	18	14.8	
Total %	0	20.6	4.3	1	0	1.4	1	5.3	6.7	29.2	0.5	1	9.1	10.5	5.3	4.3	
Cars & Peds	0	42	8	2	0	0	0	11	14	60	0	2	19	22	11	9	200
% Cars & Peds	0	97.7	88.9	100	0	0	0	100	100	98.4	0	100	100	100	100	100	95.7
Trucks	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
% Trucks	0	2.3	0	0	0	0	0	0	0	1.6	0	0	0	0	0	0	1
Bikes	0	0	1	0	0	3	2	0	0	0	1	0	0	0	0	0	7
% Bikes	0	0	11.1	0	0	100	100	0	0	0	100	0	0	0	0	0	3.3

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	8	4	1	13	0	0	1	1	2	2	6	0	0	8	3	4	4	1	12	35
04:15 PM	0	2	2	0	4	0	0	0	2	2	1	9	0	0	10	0	2	1	3	6	22
04:30 PM	0	9	0	0	9	0	0	0	0	0	1	11	0	0	12	2	3	1	0	6	27
04:45 PM	0	3	0	0	3	0	0	0	2	2	4	11	0	1	16	3	3	1	2	9	30
Total Volume	0	22	6	1	29	0	0	1	5	6	8	37	0	1	46	8	12	7	6	33	114
% App. Total	0	75.9	20.7	3.4		0	0	16.7	83.3		17.4	80.4	0	2.2		24.2	36.4	21.2	18.2		
PHF	.000	.611	.375	.250	.558	.000	.000	.250	.625	.750	.500	.841	.000	.250	.719	.667	.750	.438	.500	.688	.814
Cars & Peds																					
% Cars & Peds	0	95.5	100	100	96.6	0	0	0	100	83.3	100	97.3	0	100	97.8	100	100	100	100	100	97.4
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	4.5	0	0	3.4	0	0	0	0	0	0	2.7	0	0	2.2	0	0	0	0	0	1.8
Bikes	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Bikes	0	0	0	0	0	0	0	100	0	16.7	0	0	0	0	0	0	0	0	0	0	0.9



Start Time	Carroll Street Southbound					Pine Street Westbound					Carroll Street Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	22	4	6	32	0	1	0	1	2	8	12	0	1	21	0	0	0	1	1	56
04:15 PM	0	13	5	1	19	0	0	0	5	5	3	12	0	0	15	0	0	0	0	0	39
04:30 PM	0	21	2	1	24	0	0	0	1	1	5	18	0	0	23	0	0	0	1	1	49
04:45 PM	0	22	4	4	30	0	0	0	2	2	9	20	0	0	29	0	0	0	0	0	61
Total Volume	0	78	15	12	105	0	1	0	9	10	25	62	0	1	88	0	0	0	2	2	205
% App. Total	0	74.3	14.3	11.4		0	10	0	90		28.4	70.5	0	1.1		0	0	0	100		
PHF	.000	.886	.750	.500	.820	.000	.250	.000	.450	.500	.694	.775	.000	.250	.759	.000	.000	.000	.500	.500	.840
Cars & Peds																					
% Cars & Peds	0	93.6	100	100	95.2	0	0	0	100	90.0	92.0	88.7	0	100	89.8	0	0	0	100	100	92.7
Trucks	0	5	0	0	5	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	13
% Trucks	0	6.4	0	0	4.8	0	0	0	0	0	4.0	11.3	0	0	9.1	0	0	0	0	0	6.3
Bikes	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
% Bikes	0	0	0	0	0	0	100	0	0	10.0	4.0	0	0	0	1.1	0	0	0	0	0	1.0



File Name : Henry @ Chapman - Game Day - 9-14-2021

Site Code : 00000001

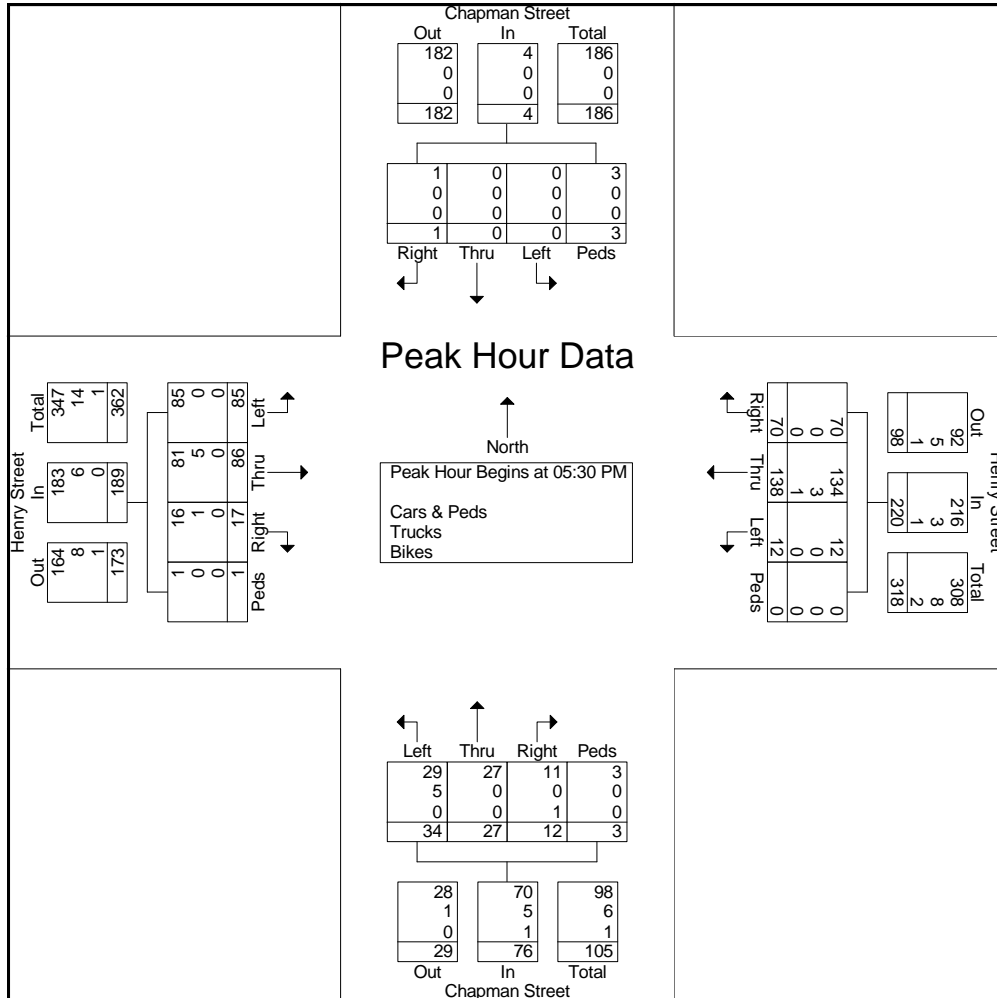
Start Date : 9/14/2021

Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Chapman Street Southbound				Henry Street Westbound				Chapman Street Northbound				Henry Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	0	0	0	0	9	26	7	0	1	1	11	1	14	35	4	1	110
05:15 PM	0	0	0	1	6	36	5	0	1	6	8	0	3	22	8	0	96
05:30 PM	0	0	0	0	11	30	4	0	4	2	6	2	2	31	16	0	108
05:45 PM	0	0	0	1	14	44	5	0	2	5	9	0	5	21	20	0	126
Total	0	0	0	2	40	136	21	0	8	14	34	3	24	109	48	1	440
06:00 PM	0	0	0	2	31	29	3	0	5	12	5	1	8	15	21	1	133
06:15 PM	1	0	0	0	14	35	0	0	1	8	14	0	2	19	28	0	122
Grand Total	1	0	0	4	85	200	24	0	14	34	53	4	34	143	97	2	695
Apprch %	20	0	0	80	27.5	64.7	7.8	0	13.3	32.4	50.5	3.8	12.3	51.8	35.1	0.7	
Total %	0.1	0	0	0.6	12.2	28.8	3.5	0	2	4.9	7.6	0.6	4.9	20.6	14	0.3	
Cars & Peds	1	0	0	4	85	196	23	0	13	34	47	4	30	137	97	1	672
% Cars & Peds	100	0	0	100	100	98	95.8	0	92.9	100	88.7	100	88.2	95.8	100	50	96.7
Trucks	0	0	0	0	0	3	1	0	0	0	6	0	4	6	0	0	20
% Trucks	0	0	0	0	0	1.5	4.2	0	0	0	11.3	0	11.8	4.2	0	0	2.9
Bikes	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	3
% Bikes	0	0	0	0	0	0.5	0	0	7.1	0	0	0	0	0	0	50	0.4

Start Time	Chapman Street Southbound					Henry Street Westbound					Chapman Street Northbound					Henry Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	0	0	0	11	30	4	0	45	4	2	6	2	14	2	31	16	0	49	108
05:45 PM	0	0	0	1	1	14	44	5	0	63	2	5	9	0	16	5	21	20	0	46	126
06:00 PM	0	0	0	2	2	31	29	3	0	63	5	12	5	1	23	8	15	21	1	45	133
06:15 PM	1	0	0	0	1	14	35	0	0	49	1	8	14	0	23	2	19	28	0	49	122
Total Volume	1	0	0	3	4	70	138	12	0	220	12	27	34	3	76	17	86	85	1	189	489
% App. Total	25	0	0	75		31.8	62.7	5.5	0		15.8	35.5	44.7	3.9		9	45.5	45	0.5		
PHF	.250	.000	.000	.375	.500	.565	.784	.600	.000	.873	.600	.563	.607	.375	.826	.531	.694	.759	.250	.964	.919
Cars & Peds																					
% Cars & Peds	100	0	0	100	100	100	97.1	100	0	98.2	91.7	100	85.3	100	92.1	94.1	94.2	100	100	96.8	96.7
Trucks	0	0	0	0	0	0	3	0	0	3	0	0	5	0	5	1	5	0	0	6	14
% Trucks	0	0	0	0	0	0	2.2	0	0	1.4	0	0	14.7	0	6.6	5.9	5.8	0	0	3.2	2.9
Bikes	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
% Bikes	0	0	0	0	0	0	0.7	0	0	0.5	8.3	0	0	0	1.3	0	0	0	0	0	0.4



File Name : Henry @ Fayette - Game Day - 9-14-2021

Site Code : 00000002

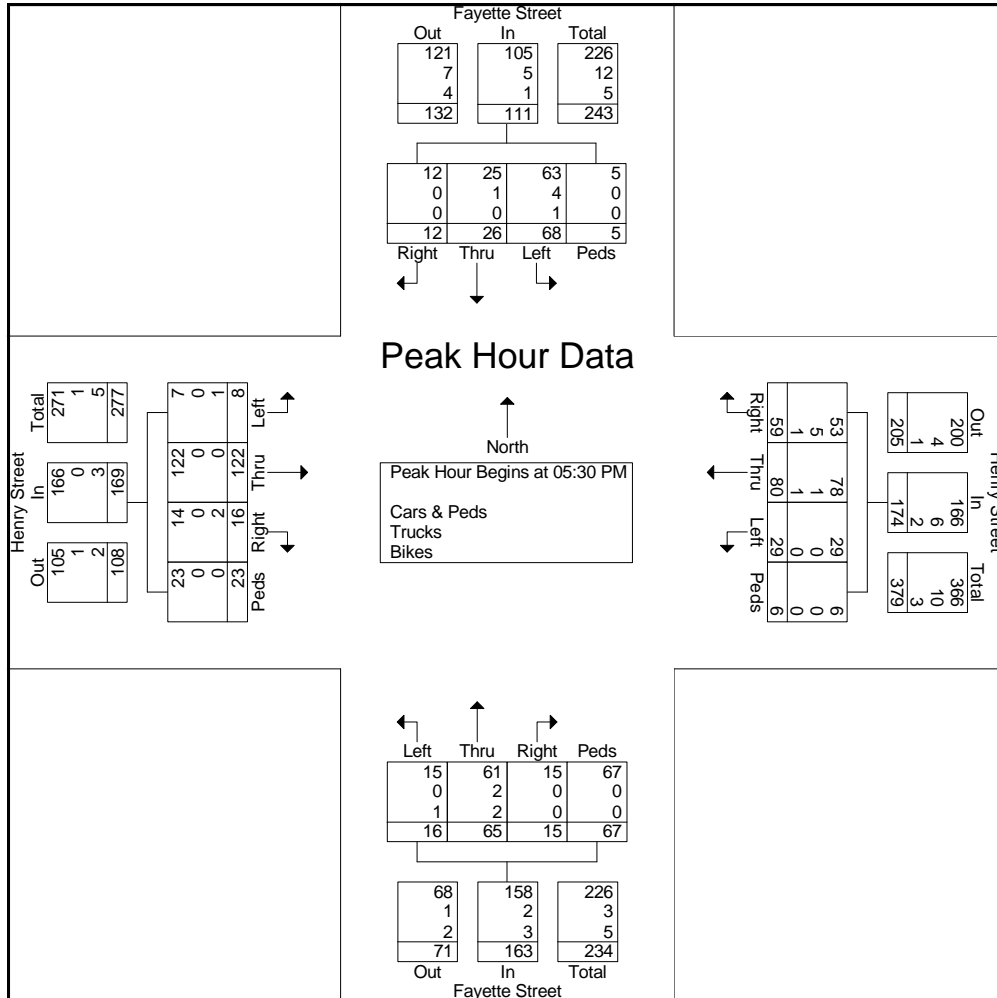
Start Date : 9/14/2021

Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Fayette Street Southbound				Henry Street Westbound				Fayette Street Northbound				Henry Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	6	4	15	0	11	24	2	0	3	5	3	1	2	28	2	0	106
05:15 PM	1	5	13	0	16	20	6	0	1	15	4	2	0	32	4	1	120
05:30 PM	2	5	20	0	13	25	7	2	1	12	5	2	1	16	1	0	112
05:45 PM	3	9	17	0	21	22	4	1	4	20	0	15	5	28	2	5	156
Total	12	23	65	0	61	91	19	3	9	52	12	20	8	104	9	6	494
06:00 PM	3	8	15	2	10	16	4	1	6	17	6	28	6	30	2	8	162
06:15 PM	4	4	16	3	15	17	14	2	4	16	5	22	4	48	3	10	187
Grand Total	19	35	96	5	86	124	37	6	19	85	23	70	18	182	14	24	843
Apprch %	12.3	22.6	61.9	3.2	34	49	14.6	2.4	9.6	43.1	11.7	35.5	7.6	76.5	5.9	10.1	
Total %	2.3	4.2	11.4	0.6	10.2	14.7	4.4	0.7	2.3	10.1	2.7	8.3	2.1	21.6	1.7	2.8	
Cars & Peds	19	34	89	5	77	119	37	6	19	73	19	70	16	181	13	24	801
% Cars & Peds	100	97.1	92.7	100	89.5	96	100	100	100	85.9	82.6	100	88.9	99.5	92.9	100	95
Trucks	0	1	6	0	8	2	0	0	0	7	2	0	0	0	0	0	26
% Trucks	0	2.9	6.2	0	9.3	1.6	0	0	0	8.2	8.7	0	0	0	0	0	3.1
Bikes	0	0	1	0	1	3	0	0	0	5	2	0	2	1	1	0	16
% Bikes	0	0	1	0	1.2	2.4	0	0	0	5.9	8.7	0	11.1	0.5	7.1	0	1.9

Start Time	Fayette Street Southbound					Henry Street Westbound					Fayette Street Northbound					Henry Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	2	5	20	0	27	13	25	7	2	47	1	12	5	2	20	1	16	1	0	18	112
05:45 PM	3	9	17	0	29	21	22	4	1	48	4	20	0	15	39	5	28	2	5	40	156
06:00 PM	3	8	15	2	28	10	16	4	1	31	6	17	6	28	57	6	30	2	8	46	162
06:15 PM	4	4	16	3	27	15	17	14	2	48	4	16	5	22	47	4	48	3	10	65	187
Total Volume	12	26	68	5	111	59	80	29	6	174	15	65	16	67	163	16	122	8	23	169	617
% App. Total	10.8	23.4	61.3	4.5		33.9	46	16.7	3.4		9.2	39.9	9.8	41.1		9.5	72.2	4.7	13.6		
PHF	.750	.722	.850	.417	.957	.702	.800	.518	.750	.906	.625	.813	.667	.598	.715	.667	.635	.667	.575	.650	.825
Cars & Peds																					
% Cars & Peds	100	96.2	92.6	100	94.6	89.8	97.5	100	100	95.4	100	93.8	93.8	100	96.9	87.5	100	87.5	100	98.2	96.4
Trucks	0	1	4	0	5	5	1	0	0	6	0	2	0	0	2	0	0	0	0	0	13
% Trucks	0	3.8	5.9	0	4.5	8.5	1.3	0	0	3.4	0	3.1	0	0	1.2	0	0	0	0	0	2.1
Bikes	0	0	1	0	1	1	1	0	0	2	0	2	1	0	3	2	0	1	0	3	9
% Bikes	0	0	1.5	0	0.9	1.7	1.3	0	0	1.1	0	3.1	6.3	0	1.8	12.5	0	12.5	0	1.8	1.5

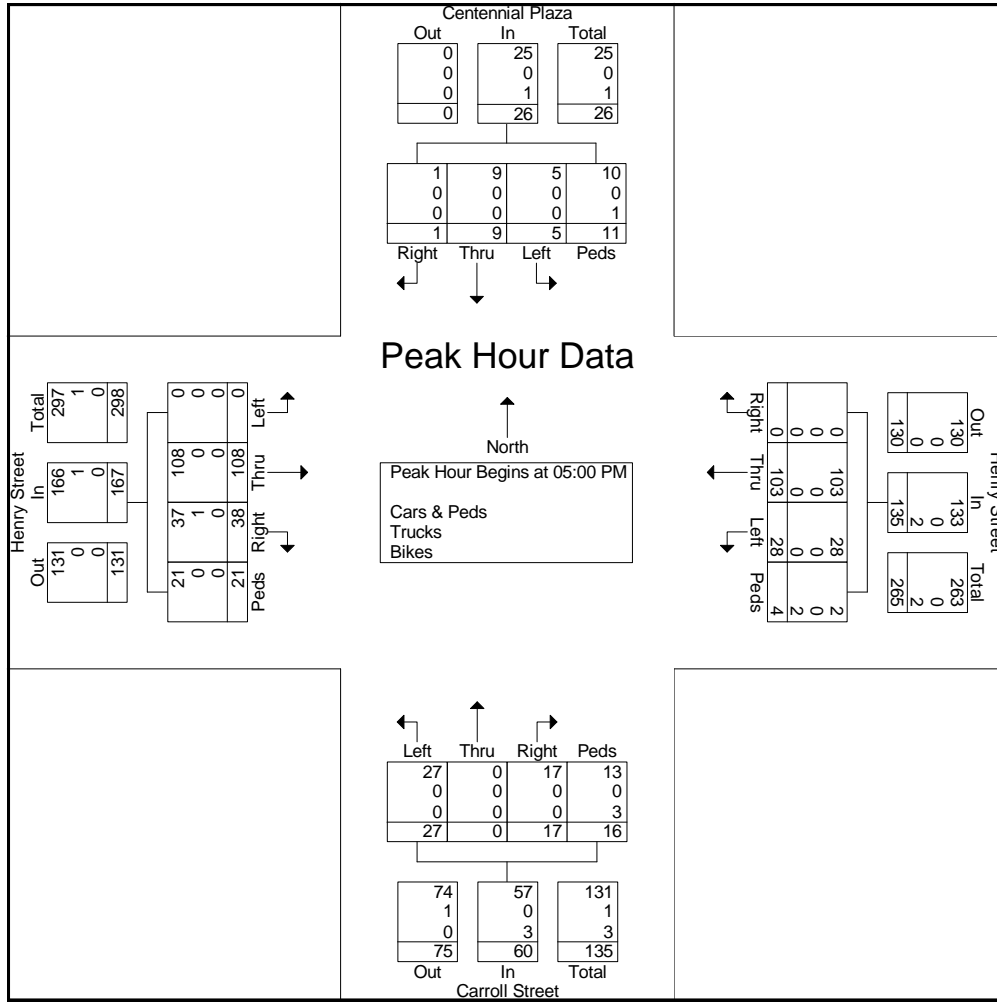


File Name : Henry @ Carrol - Centennial Plaza - Game Day - 9-14-2021
 Site Code : 00000003
 Start Date : 9/14/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Centennial Plaza Southbound				Henry Street Westbound				Carroll Street Northbound				Henry Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	0	5	2	3	0	30	7	2	4	0	7	5	14	40	0	6	125
05:15 PM	0	1	1	2	0	26	9	1	5	0	5	3	7	26	0	3	89
05:30 PM	0	1	0	0	0	27	6	1	3	0	10	0	8	22	0	9	87
05:45 PM	1	2	2	6	0	20	6	0	5	0	5	8	9	20	0	3	87
Total	1	9	5	11	0	103	28	4	17	0	27	16	38	108	0	21	388
06:00 PM	1	6	2	3	0	19	6	4	2	0	4	9	8	25	0	3	92
06:15 PM	0	1	2	6	0	20	4	1	7	0	8	26	4	26	0	5	110
Grand Total	2	16	9	20	0	142	38	9	26	0	39	51	50	159	0	29	590
Apprch %	4.3	34	19.1	42.6	0	75.1	20.1	4.8	22.4	0	33.6	44	21	66.8	0	12.2	
Total %	0.3	2.7	1.5	3.4	0	24.1	6.4	1.5	4.4	0	6.6	8.6	8.5	26.9	0	4.9	
Cars & Peds	2	16	9	19	0	142	38	4	26	0	39	47	49	159	0	29	579
% Cars & Peds	100	100	100	95	0	100	100	44.4	100	0	100	92.2	98	100	0	100	98.1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0.2
Bikes	0	0	0	1	0	0	0	5	0	0	0	4	0	0	0	0	10
% Bikes	0	0	0	5	0	0	0	55.6	0	0	0	7.8	0	0	0	0	1.7

Start Time	Centennial Plaza Southbound					Henry Street Westbound					Carroll Street Northbound					Henry Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	5	2	3	10	0	30	7	2	39	4	0	7	5	16	14	40	0	6	60	125
05:15 PM	0	1	1	2	4	0	26	9	1	36	5	0	5	3	13	7	26	0	3	36	89
05:30 PM	0	1	0	0	1	0	27	6	1	34	3	0	10	0	13	8	22	0	9	39	87
05:45 PM	1	2	2	6	11	0	20	6	0	26	5	0	5	8	18	9	20	0	3	32	87
Total Volume	1	9	5	11	26	0	103	28	4	135	17	0	27	16	60	38	108	0	21	167	388
% App. Total	3.8	34.6	19.2	42.3		0	76.3	20.7	3		28.3	0	45	26.7		22.8	64.7	0	12.6		
PHF	.250	.450	.625	.458	.591	.000	.858	.778	.500	.865	.850	.000	.675	.500	.833	.679	.675	.000	.583	.696	.776
Cars & Peds																					
% Cars & Peds	100	100	100	90.9	96.2	0	100	100	50.0	98.5	100	0	100	81.3	95.0	97.4	100	0	100	99.4	98.2
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0.3
Bikes	0	0	0	1	1	0	0	0	2	2	0	0	0	3	3	0	0	0	0	0	6
% Bikes	0	0	0	9.1	3.8	0	0	0	50.0	1.5	0	0	0	18.8	5.0	0	0	0	0	0	1.5

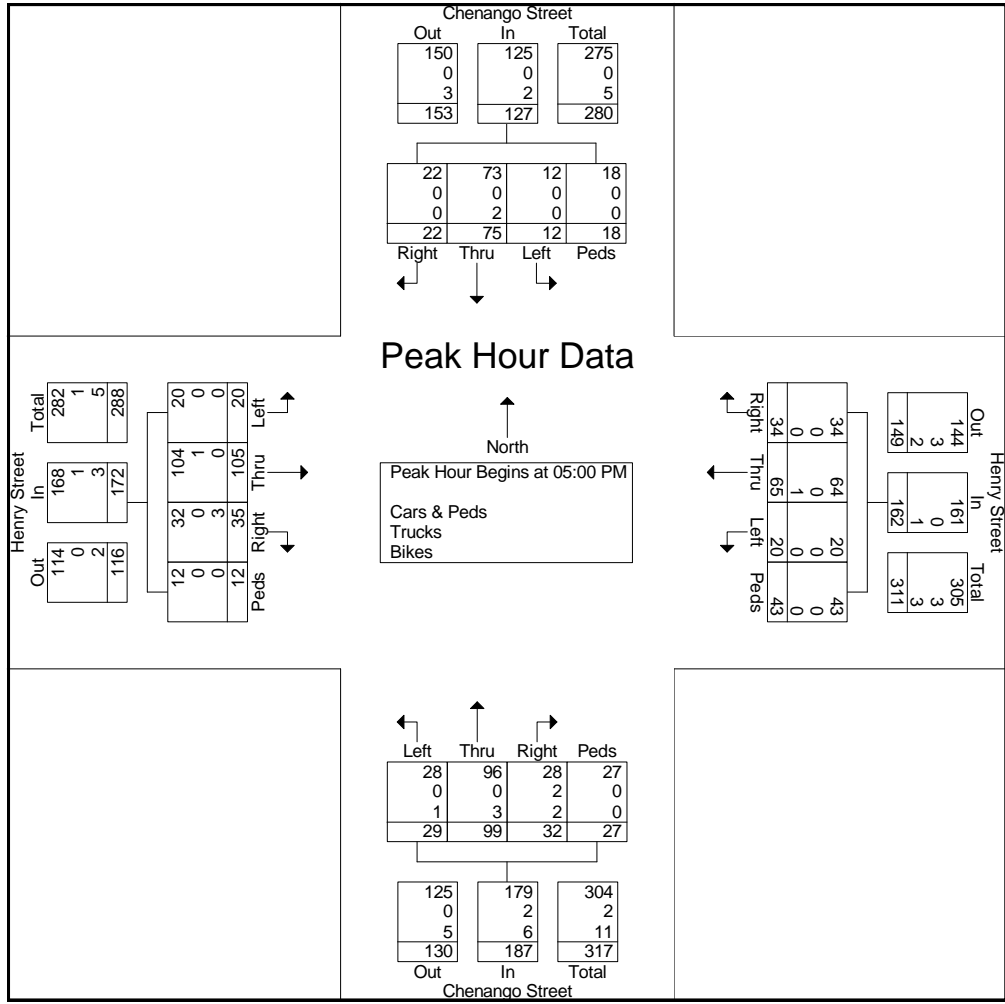


File Name : Henry @ Chenango - Game Day - 9-14-2021
 Site Code : 00000004
 Start Date : 9/14/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Chenango Street Southbound				Henry Street Westbound				Chenango Street Northbound				Henry Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	13	25	3	3	2	17	6	21	14	24	10	3	8	35	6	2	192
05:15 PM	4	16	2	3	8	13	6	9	4	25	6	4	10	30	4	2	146
05:30 PM	4	12	2	3	12	18	8	10	7	21	5	12	9	23	4	7	157
05:45 PM	1	22	5	9	12	17	0	3	7	29	8	8	8	17	6	1	153
Total	22	75	12	18	34	65	20	43	32	99	29	27	35	105	20	12	648
06:00 PM	8	24	4	4	7	12	4	4	10	20	7	6	7	19	3	4	143
06:15 PM	8	16	4	1	7	13	6	9	7	20	9	11	6	24	9	13	163
Grand Total	38	115	20	23	48	90	30	56	49	139	45	44	48	148	32	29	954
Apprch %	19.4	58.7	10.2	11.7	21.4	40.2	13.4	25	17.7	50.2	16.2	15.9	18.7	57.6	12.5	11.3	
Total %	4	12.1	2.1	2.4	5	9.4	3.1	5.9	5.1	14.6	4.7	4.6	5	15.5	3.4	3	
Cars & Peds	38	113	20	23	46	88	29	56	45	135	44	44	45	145	32	29	932
% Cars & Peds	100	98.3	100	100	95.8	97.8	96.7	100	91.8	97.1	97.8	100	93.8	98	100	100	97.7
Trucks	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3
% Trucks	0	0	0	0	0	0	0	0	4.1	0	0	0	0	0.7	0	0	0.3
Bikes	0	2	0	0	2	2	1	0	2	4	1	0	3	2	0	0	19
% Bikes	0	1.7	0	0	4.2	2.2	3.3	0	4.1	2.9	2.2	0	6.2	1.4	0	0	2

Start Time	Chenango Street Southbound					Henry Street Westbound					Chenango Street Northbound					Henry Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	13	25	3	3	44	2	17	6	21	46	14	24	10	3	51	8	35	6	2	51	192
05:15 PM	4	16	2	3	25	8	13	6	9	36	4	25	6	4	39	10	30	4	2	46	146
05:30 PM	4	12	2	3	21	12	18	8	10	48	7	21	5	12	45	9	23	4	7	43	157
05:45 PM	1	22	5	9	37	12	17	0	3	32	7	29	8	8	52	8	17	6	1	32	153
Total Volume	22	75	12	18	127	34	65	20	43	162	32	99	29	27	187	35	105	20	12	172	648
% App. Total	17.3	59.1	9.4	14.2		21	40.1	12.3	26.5		17.1	52.9	15.5	14.4		20.3	61	11.6	7		
PHF	.423	.750	.600	.500	.722	.708	.903	.625	.512	.844	.571	.853	.725	.563	.899	.875	.750	.833	.429	.843	.844
Cars & Peds																					
% Cars & Peds	100	97.3	100	100	98.4	100	98.5	100	100	99.4	87.5	97.0	96.6	100	95.7	91.4	99.0	100	100	97.7	97.7
Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	3
% Trucks	0	0	0	0	0	0	0	0	0	0	6.3	0	0	0	1.1	0	1.0	0	0	0.6	0.5
Bikes	0	2	0	0	2	0	1	0	0	1	2	3	1	0	6	3	0	0	0	3	12
% Bikes	0	2.7	0	0	1.6	0	1.5	0	0	0.6	6.3	3.0	3.4	0	3.2	8.6	0	0	0	1.7	1.9

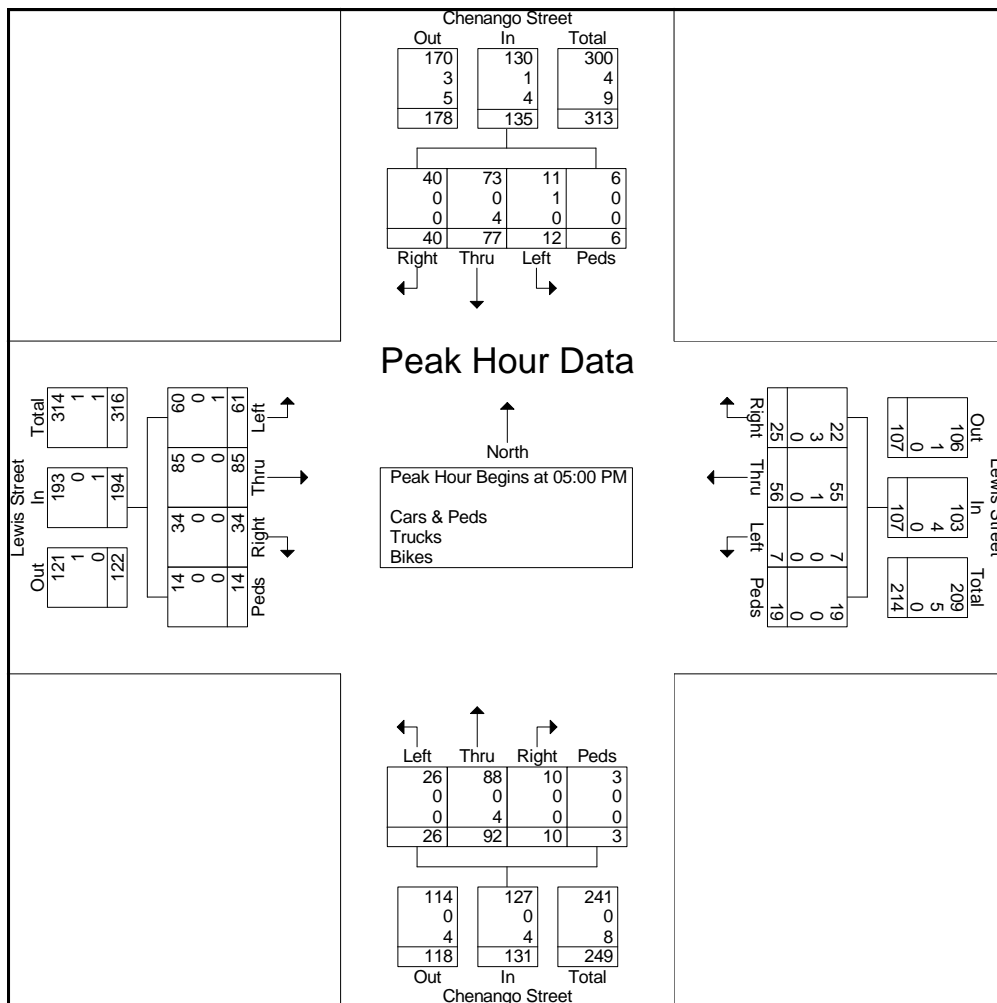


File Name : Chenango @ Lewis - Game Day - 9-16-2021
 Site Code : 00000005
 Start Date : 9/16/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Chenango Street Southbound				Lewis Street Westbound				Chenango Street Northbound				Lewis Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	10	19	2	3	11	22	2	7	5	28	6	0	10	21	15	4	165
05:15 PM	11	20	3	0	8	11	5	1	0	19	7	0	9	24	17	2	137
05:30 PM	12	21	2	1	2	15	0	6	2	24	4	3	8	23	14	4	141
05:45 PM	7	17	5	2	4	8	0	5	3	21	9	0	7	17	15	4	124
Total	40	77	12	6	25	56	7	19	10	92	26	3	34	85	61	14	567
06:00 PM	8	19	7	0	5	8	2	7	3	15	3	0	10	21	15	0	123
06:15 PM	6	12	3	0	4	9	1	2	4	16	8	12	11	22	17	1	128
Grand Total	54	108	22	6	34	73	10	28	17	123	37	15	55	128	93	15	818
Apprch %	28.4	56.8	11.6	3.2	23.4	50.3	6.9	19.3	8.9	64.1	19.3	7.8	18.9	44	32	5.2	
Total %	6.6	13.2	2.7	0.7	4.2	8.9	1.2	3.4	2.1	15	4.5	1.8	6.7	15.6	11.4	1.8	
Cars & Peds	54	101	19	6	27	72	10	28	17	117	37	15	55	126	92	15	791
% Cars & Peds	100	93.5	86.4	100	79.4	98.6	100	100	100	95.1	100	100	100	98.4	98.9	100	96.7
Trucks	0	1	3	0	7	1	0	0	0	0	0	0	0	1	0	0	13
% Trucks	0	0.9	13.6	0	20.6	1.4	0	0	0	0	0	0	0	0.8	0	0	1.6
Bikes	0	6	0	0	0	0	0	0	0	6	0	0	0	1	1	0	14
% Bikes	0	5.6	0	0	0	0	0	0	0	4.9	0	0	0	0.8	1.1	0	1.7

Start Time	Chenango Street Southbound					Lewis Street Westbound					Chenango Street Northbound					Lewis Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	10	19	2	3	34	11	22	2	7	42	5	28	6	0	39	10	21	15	4	50	165
05:15 PM	11	20	3	0	34	8	11	5	1	25	0	19	7	0	26	9	24	17	2	52	137
05:30 PM	12	21	2	1	36	2	15	0	6	23	2	24	4	3	33	8	23	14	4	49	141
05:45 PM	7	17	5	2	31	4	8	0	5	17	3	21	9	0	33	7	17	15	4	43	124
Total Volume	40	77	12	6	135	25	56	7	19	107	10	92	26	3	131	34	85	61	14	194	567
% App. Total	29.6	57	8.9	4.4		23.4	52.3	6.5	17.8		7.6	70.2	19.8	2.3		17.5	43.8	31.4	7.2		
PHF	.833	.917	.600	.500	.938	.568	.636	.350	.679	.637	.500	.821	.722	.250	.840	.850	.885	.897	.875	.933	.859
Cars & Peds																					
% Cars & Peds	100	94.8	91.7	100	96.3	88.0	98.2	100	100	96.3	100	95.7	100	100	96.9	100	100	98.4	100	99.5	97.5
Trucks	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	5
% Trucks	0	0	8.3	0	0.7	12.0	1.8	0	0	3.7	0	0	0	0	0	0	0	0	0	0	0.9
Bikes	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	9
% Bikes	0	5.2	0	0	3.0	0	0	0	0	0	0	4.3	0	0	3.1	0	0	1.6	0	0.5	1.6

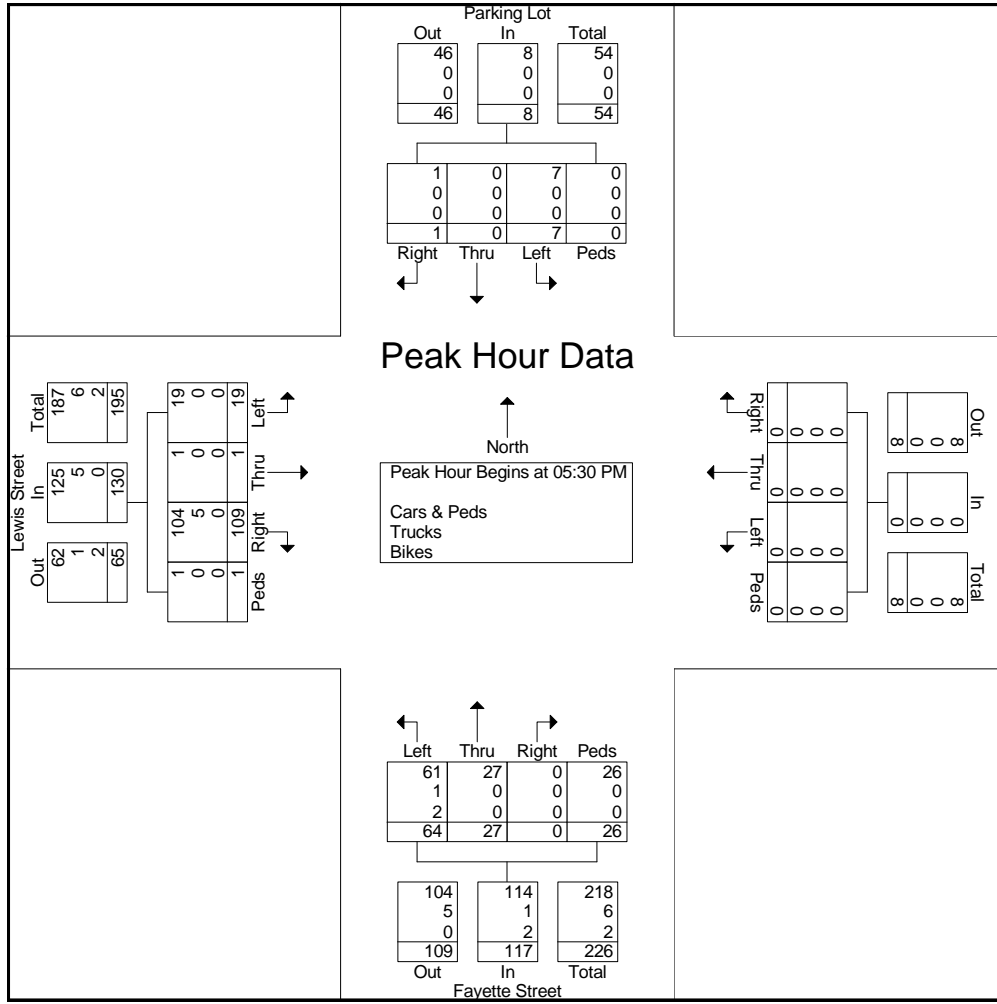


File Name : Lewis @ Fayette - Game Day - 9-14-2021
 Site Code : 00000006
 Start Date : 9/14/2021
 Page No : 1

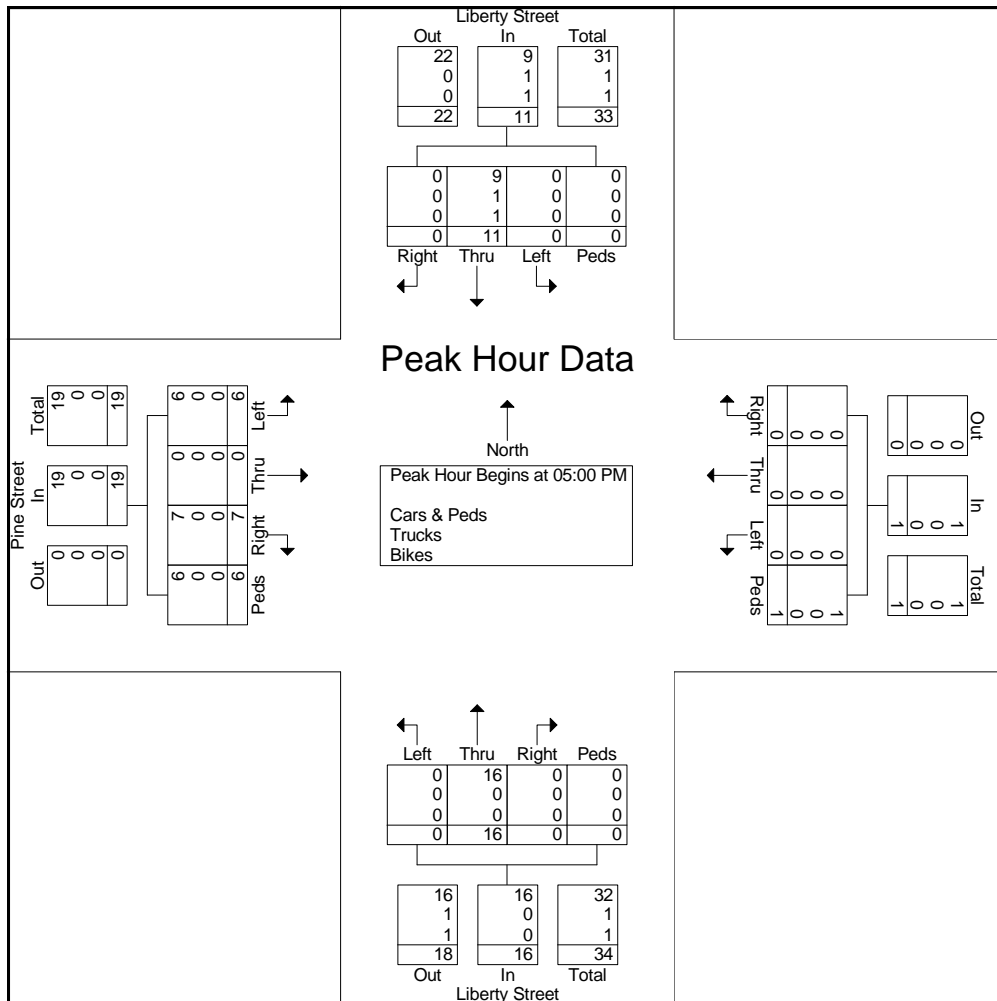
Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Parking Lot Southbound				Westbound				Fayette Street Northbound				Lewis Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:15 PM	3	0	1	0	0	0	0	0	0	1	17	3	24	0	4	0	53
05:30 PM	0	0	5	0	0	0	0	0	0	8	13	6	19	1	0	0	52
05:45 PM	0	0	1	0	0	0	0	0	0	5	15	4	28	0	1	0	54
Total	3	0	7	0	0	0	0	0	0	14	45	13	71	1	5	0	159
06:00 PM	1	0	1	0	0	0	0	0	0	12	18	7	34	0	11	1	85
06:15 PM	0	0	0	0	0	0	0	0	0	2	18	9	28	0	7	0	64
06:30 PM	0	0	2	0	0	0	0	0	0	3	13	4	22	0	5	0	49
Grand Total	4	0	10	0	0	0	0	0	0	31	94	33	155	1	28	1	357
Apprch %	28.6	0	71.4	0	0	0	0	0	0	19.6	59.5	20.9	83.8	0.5	15.1	0.5	
Total %	1.1	0	2.8	0	0	0	0	0	0	8.7	26.3	9.2	43.4	0.3	7.8	0.3	
Cars & Peds	4	0	10	0	0	0	0	0	0	31	90	33	149	1	28	1	347
% Cars & Peds	100	0	100	0	0	0	0	0	0	100	95.7	100	96.1	100	100	100	97.2
Trucks	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	8
% Trucks	0	0	0	0	0	0	0	0	0	0	2.1	0	3.9	0	0	0	2.2
Bikes	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
% Bikes	0	0	0	0	0	0	0	0	0	0	2.1	0	0	0	0	0	0.6

Start Time	Parking Lot Southbound					Westbound					Fayette Street Northbound					Lewis Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:15 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	5	0	5	0	0	0	0	0	0	8	13	6	27	19	1	0	0	20	52
05:45 PM	0	0	1	0	1	0	0	0	0	0	0	5	15	4	24	28	0	1	0	29	54
06:00 PM	1	0	1	0	2	0	0	0	0	0	0	12	18	7	37	34	0	11	1	46	85
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	18	9	29	28	0	7	0	35	64
Total Volume	1	0	7	0	8	0	0	0	0	0	0	27	64	26	117	109	1	19	1	130	255
% App. Total	12.5	0	87.5	0		0	0	0	0		0	23.1	54.7	22.2		83.8	0.8	14.6	0.8		
PHF	.250	.000	.350	.000	.400	.000	.000	.000	.000	.000	.000	.563	.889	.722	.791	.801	.250	.432	.250	.707	.750
Cars & Peds																					
% Cars & Peds	100	0	100	0	100	0	0	0	0	0	0	100	95.3	100	97.4	95.4	100	100	100	96.2	96.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	0	0	0	5	6
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1.6	0	0.9	4.6	0	0	0	3.8	2.4
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	3.1	0	1.7	0	0	0	0	0	0.8



Start Time	Liberty Street Southbound					Westbound					Liberty Street Northbound					Pine Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	3	0	3	2	8	15
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	2	0	1	0	3	6
05:30 PM	0	3	0	0	3	0	0	0	1	1	0	4	0	0	4	1	0	1	0	2	10
05:45 PM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	1	0	1	4	6	16
Total Volume	0	11	0	0	11	0	0	0	1	1	0	16	0	0	16	7	0	6	6	19	47
% App. Total	0	100	0	0		0	0	0	100		0	100	0	0		36.8	0	31.6	31.6		
PHF	.000	.688	.000	.000	.688	.000	.000	.000	.250	.250	.000	.571	.000	.000	.571	.583	.000	.500	.375	.594	.734
Cars & Peds																					
% Cars & Peds	0	81.8	0	0	81.8	0	0	0	100	100	0	100	0	0	100	100	0	100	100	100	95.7
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	9.1	0	0	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.1
Bikes	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bikes	0	9.1	0	0	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.1

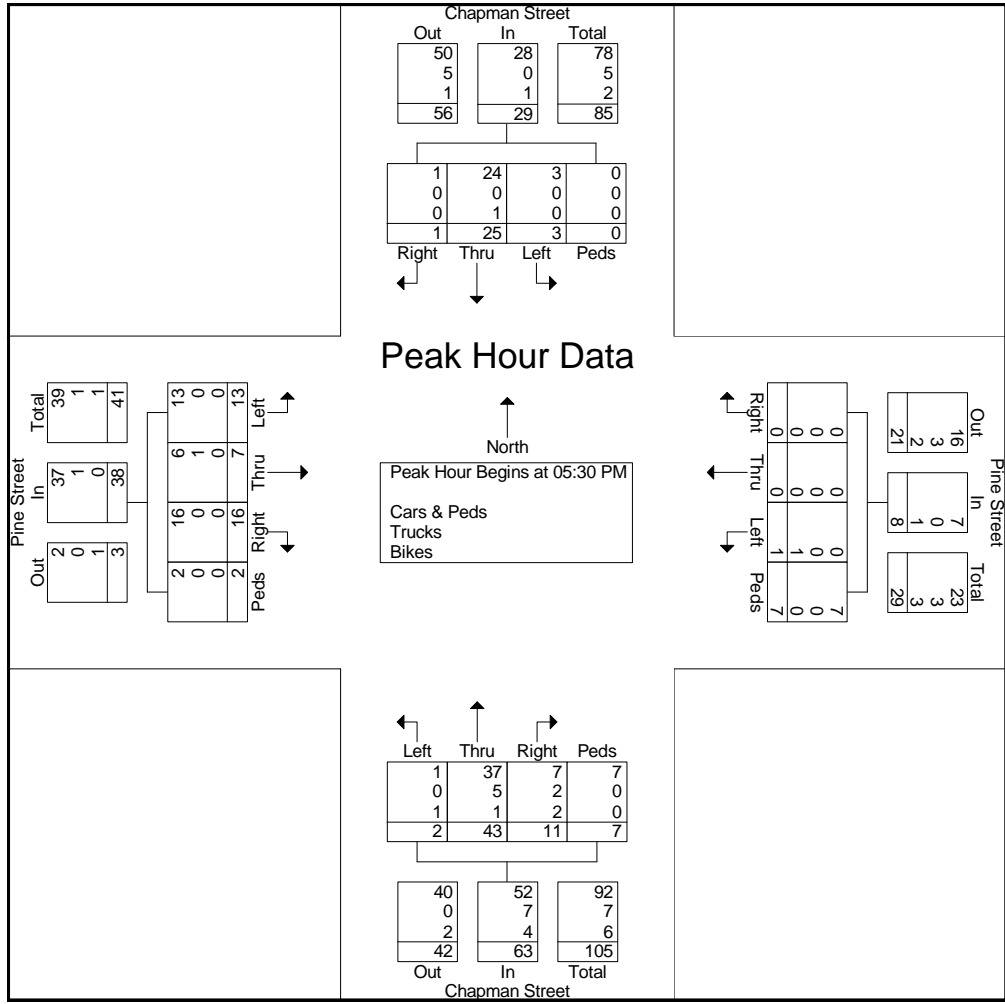


File Name : Pine @ Chapman - Game Day - 9-16-2021
 Site Code : 00000008
 Start Date : 9/16/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Chapman Street Southbound				Pine Street Westbound				Chapman Street Northbound				Pine Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	1	16	3	1	0	0	0	0	2	10	1	0	3	3	1	2	43
05:15 PM	0	3	0	0	0	0	0	0	2	9	0	0	9	3	4	0	30
05:30 PM	0	6	0	0	0	0	0	1	2	13	0	2	2	2	0	2	30
05:45 PM	1	8	1	0	0	0	0	1	1	8	0	2	5	3	3	0	33
Total	2	33	4	1	0	0	0	2	7	40	1	4	19	11	8	4	136
06:00 PM	0	5	1	0	0	0	1	1	3	10	0	1	4	1	6	0	33
06:15 PM	0	6	1	0	0	0	0	4	5	12	2	2	5	1	4	0	42
Grand Total	2	44	6	1	0	0	1	7	15	62	3	7	28	13	18	4	211
Apprch %	3.8	83	11.3	1.9	0	0	12.5	87.5	17.2	71.3	3.4	8	44.4	20.6	28.6	6.3	
Total %	0.9	20.9	2.8	0.5	0	0	0.5	3.3	7.1	29.4	1.4	3.3	13.3	6.2	8.5	1.9	
Cars & Peds	2	41	6	1	0	0	0	7	11	56	2	7	28	11	18	4	194
% Cars & Peds	100	93.2	100	100	0	0	0	100	73.3	90.3	66.7	100	100	84.6	100	100	91.9
Trucks	0	2	0	0	0	0	0	0	2	5	0	0	0	1	0	0	10
% Trucks	0	4.5	0	0	0	0	0	0	13.3	8.1	0	0	0	7.7	0	0	4.7
Bikes	0	1	0	0	0	0	1	0	2	1	1	0	0	1	0	0	7
% Bikes	0	2.3	0	0	0	0	100	0	13.3	1.6	33.3	0	0	7.7	0	0	3.3

Start Time	Chapman Street Southbound					Pine Street Westbound					Chapman Street Northbound					Pine Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	6	0	0	6	0	0	0	1	1	2	13	0	2	17	2	2	0	2	6	30
05:45 PM	1	8	1	0	10	0	0	0	1	1	1	8	0	2	11	5	3	3	0	11	33
06:00 PM	0	5	1	0	6	0	0	1	1	2	3	10	0	1	14	4	1	6	0	11	33
06:15 PM	0	6	1	0	7	0	0	0	4	4	5	12	2	2	21	5	1	4	0	10	42
Total Volume	1	25	3	0	29	0	0	1	7	8	11	43	2	7	63	16	7	13	2	38	138
% App. Total	3.4	86.2	10.3	0		0	0	12.5	87.5		17.5	68.3	3.2	11.1		42.1	18.4	34.2	5.3		
PHF	.250	.781	.750	.000	.725	.000	.000	.250	.438	.500	.550	.827	.250	.875	.750	.800	.583	.542	.250	.864	.821
Cars & Peds																					
% Cars & Peds	100	96.0	100	0	96.6	0	0	0	100	87.5	63.6	86.0	50.0	100	82.5	100	85.7	100	100	97.4	89.9
Trucks	0	0	0	0	0	0	0	0	0	0	2	5	0	0	7	0	1	0	0	1	8
% Trucks	0	0	0	0	0	0	0	0	0	0	18.2	11.6	0	0	11.1	0	14.3	0	0	2.6	5.8
Bikes	0	1	0	0	1	0	0	1	0	1	2	1	1	0	4	0	0	0	0	0	6
% Bikes	0	4.0	0	0	3.4	0	0	100	0	12.5	18.2	2.3	50.0	0	6.3	0	0	0	0	0	4.3

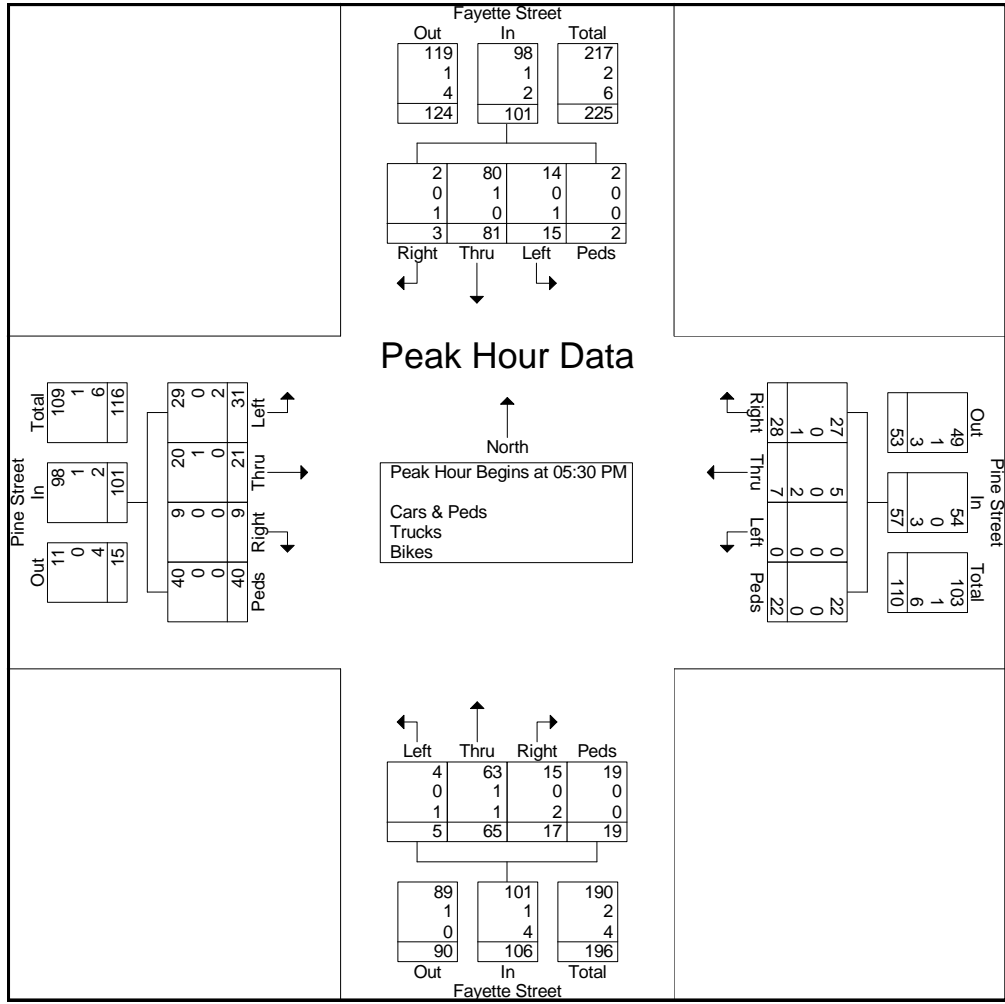


File Name : Pine @ Fayette - Game Day - 9-16-2021
 Site Code : 00000009
 Start Date : 9/16/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes

Start Time	Fayette Street Southbound				Pine Street Westbound				Fayette Street Northbound				Pine Street Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	0	20	2	2	0	3	0	2	2	17	0	2	0	7	5	5	67
05:15 PM	1	12	8	0	0	0	0	0	2	14	0	0	4	8	3	3	55
05:30 PM	1	18	5	0	2	1	0	2	5	14	0	2	3	3	7	5	68
05:45 PM	0	19	2	2	6	4	0	7	3	7	4	3	0	6	8	6	77
Total	2	69	17	4	8	8	0	11	12	52	4	7	7	24	23	19	267
06:00 PM	0	24	4	0	14	2	0	9	7	25	1	9	1	9	8	10	123
06:15 PM	2	20	4	0	6	0	0	4	2	19	0	5	5	3	8	19	97
Grand Total	4	113	25	4	28	10	0	24	21	96	5	21	13	36	39	48	487
Apprch %	2.7	77.4	17.1	2.7	45.2	16.1	0	38.7	14.7	67.1	3.5	14.7	9.6	26.5	28.7	35.3	
Total %	0.8	23.2	5.1	0.8	5.7	2.1	0	4.9	4.3	19.7	1	4.3	2.7	7.4	8	9.9	
Cars & Peds	3	112	24	4	27	7	0	24	19	93	4	21	13	33	37	48	469
% Cars & Peds	75	99.1	96	100	96.4	70	0	100	90.5	96.9	80	100	100	91.7	94.9	100	96.3
Trucks	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0	0	4
% Trucks	0	0.9	0	0	0	0	0	0	0	2.1	0	0	0	2.8	0	0	0.8
Bikes	1	0	1	0	1	3	0	0	2	1	1	0	0	2	2	0	14
% Bikes	25	0	4	0	3.6	30	0	0	9.5	1	20	0	0	5.6	5.1	0	2.9

Start Time	Fayette Street Southbound					Pine Street Westbound					Fayette Street Northbound					Pine Street Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	1	18	5	0	24	2	1	0	2	5	5	14	0	2	21	3	3	7	5	18	68
05:45 PM	0	19	2	2	23	6	4	0	7	17	3	7	4	3	17	0	6	8	6	20	77
06:00 PM	0	24	4	0	28	14	2	0	9	25	7	25	1	9	42	1	9	8	10	28	123
06:15 PM	2	20	4	0	26	6	0	0	4	10	2	19	0	5	26	5	3	8	19	35	97
Total Volume	3	81	15	2	101	28	7	0	22	57	17	65	5	19	106	9	21	31	40	101	365
% App. Total	3	80.2	14.9	2		49.1	12.3	0	38.6		16	61.3	4.7	17.9		8.9	20.8	30.7	39.6		
PHF	.375	.844	.750	.250	.902	.500	.438	.000	.611	.570	.607	.650	.313	.528	.631	.450	.583	.969	.526	.721	.742
Cars & Peds																					
% Cars & Peds	66.7	98.8	93.3	100	97.0	96.4	71.4	0	100	94.7	88.2	96.9	80.0	100	95.3	100	95.2	93.5	100	97.0	96.2
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
% Trucks	0	1.2	0	0	1.0	0	0	0	0	0	0	1.5	0	0	0.9	0	4.8	0	0	1.0	0.8
Bikes	1	0	1	0	2	1	2	0	0	3	2	1	1	0	4	0	0	2	0	2	11
% Bikes	33.3	0	6.7	0	2.0	3.6	28.6	0	0	5.3	11.8	1.5	20.0	0	3.8	0	0	6.5	0	2.0	3.0



File Name : Pine @ Carroll - Game Day - 9-16-2021

Site Code : 00000010

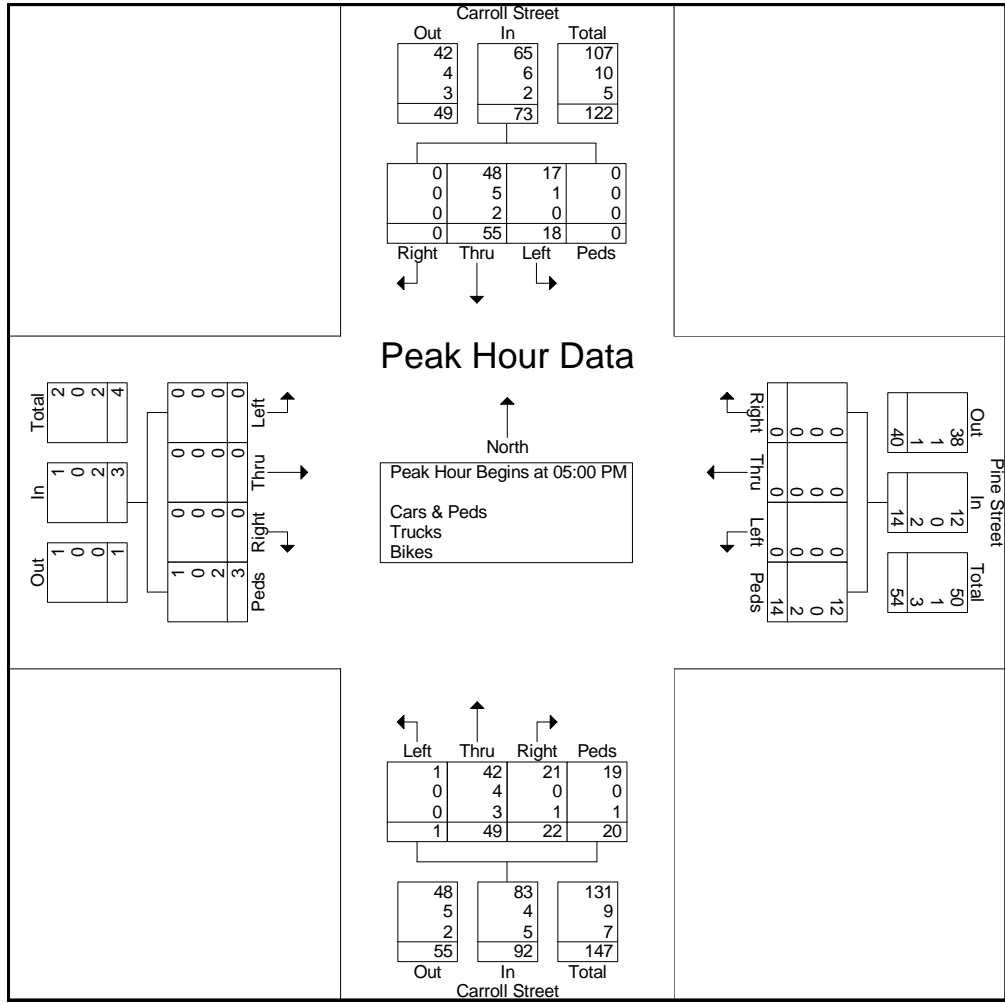
Start Date : 9/16/2021

Page No : 1

Groups Printed- Cars & Peds - Trucks - Bikes





















Start Time	Carroll Street Southbound				Pine Street Westbound				Carroll Street Northbound				Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 PM	0	15	6	0	0	0	0	6	9	15	0	12	0	0	0	0	63
05:15 PM	0	13	3	0	0	0	0	4	6	10	0	3	0	0	0	2	41
05:30 PM	0	15	5	0	0	0	0	2	4	14	0	3	0	0	0	1	44
05:45 PM	0	12	4	0	0	0	0	2	3	10	1	2	0	0	0	0	34
Total	0	55	18	0	0	0	0	14	22	49	1	20	0	0	0	3	182
06:00 PM	0	15	6	1	0	0	0	7	10	11	0	2	0	0	0	7	59
06:15 PM	0	10	5	0	0	0	0	3	5	18	0	0	0	0	0	0	41
Grand Total	0	80	29	1	0	0	0	24	37	78	1	22	0	0	0	10	282
Apprch %	0	72.7	26.4	0.9	0	0	0	100	26.8	56.5	0.7	15.9	0	0	0	100	
Total %	0	28.4	10.3	0.4	0	0	0	8.5	13.1	27.7	0.4	7.8	0	0	0	3.5	
Cars & Peds	0	70	28	1	0	0	0	21	36	68	1	21	0	0	0	8	254
% Cars & Peds	0	87.5	96.6	100	0	0	0	87.5	97.3	87.2	100	95.5	0	0	0	80	90.1
Trucks	0	8	1	0	0	0	0	0	0	7	0	0	0	0	0	0	16
% Trucks	0	10	3.4	0	0	0	0	0	0	9	0	0	0	0	0	0	5.7
Bikes	0	2	0	0	0	0	0	3	1	3	0	1	0	0	0	2	12
% Bikes	0	2.5	0	0	0	0	0	12.5	2.7	3.8	0	4.5	0	0	0	20	4.3

Start Time	Carroll Street Southbound					Pine Street Westbound					Carroll Street Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	15	6	0	21	0	0	0	6	6	9	15	0	12	36	0	0	0	0	0	63
05:15 PM	0	13	3	0	16	0	0	0	4	4	6	10	0	3	19	0	0	0	2	2	41
05:30 PM	0	15	5	0	20	0	0	0	2	2	4	14	0	3	21	0	0	0	1	1	44
05:45 PM	0	12	4	0	16	0	0	0	2	2	3	10	1	2	16	0	0	0	0	0	34
Total Volume	0	55	18	0	73	0	0	0	14	14	22	49	1	20	92	0	0	0	3	3	182
% App. Total	0	75.3	24.7	0		0	0	0	100		23.9	53.3	1.1	21.7		0	0	0	100		
PHF	.000	.917	.750	.000	.869	.000	.000	.000	.583	.583	.611	.817	.250	.417	.639	.000	.000	.000	.375	.375	.722
Cars & Peds																					
% Cars & Peds	0	87.3	94.4	0	89.0	0	0	0	85.7	85.7	95.5	85.7	100	95.0	90.2	0	0	0	33.3	33.3	88.5
Trucks	0	5	1	0	6	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	10
% Trucks	0	9.1	5.6	0	8.2	0	0	0	0	0	0	8.2	0	0	4.3	0	0	0	0	0	5.5
Bikes	0	2	0	0	2	0	0	0	2	2	1	3	0	1	5	0	0	0	2	2	11
% Bikes	0	3.6	0	0	2.7	0	0	0	14.3	14.3	4.5	6.1	0	5.0	5.4	0	0	0	66.7	66.7	6.0



Lanes, Volumes, Timings
 1: Chapman Street/Stadium Parking & Henry Street













10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	21	168	23	39	5	4	1	0	7
Future Volume (vph)	23	184	18	21	168	23	39	5	4	1	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1703	1765	0	1752	1805	0	1703	1647	0	1687	1457	0
Flt Permitted	0.597			0.612			0.748			0.750		
Satd. Flow (perm)	1065	1765	0	1124	1805	0	1328	1647	0	1319	1457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			19			5			603	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	235	0	29	262	0	48	11	0	2	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	30.0	30.0		30.0	30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
v/c Ratio	0.05	0.25		0.05	0.27		0.12	0.02		0.01	0.02	
Control Delay	6.9	7.8		6.9	7.8		15.6	11.7		14.0	0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.9	7.8		6.9	7.8		15.6	11.7		14.0	0.0	
LOS	A	A		A	A		B	B		B	A	
Approach Delay		7.7			7.7			14.9			1.8	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			A	
Queue Length 50th (ft)	4	37		4	41		12	1		1	0	
Queue Length 95th (ft)	13	66		11	58		29	10		2	0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)	270			135			135			100		
Base Capacity (vph)	560	935		591	959		396	494		393	857	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.25		0.05	0.27		0.12	0.02		0.01	0.02	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 8.3





Intersection Capacity Utilization 47.5%

Analysis Period (min) 15

Intersection LOS: A


















ICU Level of Service A

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

 Ø2 (R)	 Ø4
22 s	35 s
 Ø6 (R)	 Ø8
22 s	35 s

Lanes, Volumes, Timings 2: Fayette Street & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	13	153	48	21	36	17	73	48	14
Future Volume (vph)	5	135	15	13	153	48	21	36	17	73	48	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1794	0	0	1802	1538	0	1749	0	0	1685	0
Flt Permitted		0.991			0.976			0.894			0.795	
Satd. Flow (perm)	0	1781	0	0	1765	1492	0	1584	0	0	1371	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				56		21			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	195	56	0	91	0	0	171	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%	55.6%	44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0	20.0		15.0			15.0	
Actuated g/C Ratio		0.44			0.44	0.44		0.33			0.33	
v/c Ratio		0.22			0.25	0.08		0.17			0.37	
Control Delay		7.2			8.9	3.1		9.6			13.3	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		7.2			8.9	3.1		9.6			13.3	
LOS		A			A	A		A			B	
Approach Delay		7.2			7.6			9.6			13.3	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			B	
Queue Length 50th (ft)		33			29	0		12			30	
Queue Length 95th (ft)		62			56	12		31			57	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)						110						
Base Capacity (vph)		800			784	694		542			466	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.22			0.25	0.08		0.17			0.37	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 9.2
 Intersection Capacity Utilization 58.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: Fayette Street & Henry Street

Ø2 (R) 20 s	Ø4 25 s
Ø6 (R) 20 s	Ø8 25 s

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	111	45	31	157	0	71	0	31	13	23	14
Future Volume (vph)	0	111	45	31	157	0	71	0	31	13	23	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	3318	0	1787	3574	0	0	1629	0	0	1541	0
Flt Permitted				0.644				0.774			0.927	
Satd. Flow (perm)	0	3318	0	1200	3574	0	0	1289	0	0	1444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49						27			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	13		14	14		13	23		7	7		23
Confl. Bikes (#/hr)			8			5			2			3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.76	0.76	0.76	0.70	0.70	0.70
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	0	36	180	0	0	134	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)		51.0		51.0	51.0			31.0			31.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.34			0.34	
v/c Ratio		0.09		0.05	0.09			0.29			0.14	
Control Delay		6.4		12.8	11.9			19.1			16.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		6.4		12.8	11.9			19.1			16.4	
LOS		A		B	B			B			B	
Approach Delay		6.4			12.0			19.1			16.4	

Lanes, Volumes, Timings

3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			B	
Queue Length 50th (ft)		15		9	23			43			20	
Queue Length 95th (ft)		29		23	40			71			36	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)				115								
Base Capacity (vph)		1901		680	2025			461			510	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.09		0.05	0.09			0.29			0.14	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.29
 Intersection Signal Delay: 12.6
 Intersection Capacity Utilization 75.0%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

Ø2 (R) 35 s	Ø4 55 s
Ø6 (R) 35 s	Ø8 55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Future Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	3449	0	1770	1863	1583	0	1846	0	0	1777	0
Flt Permitted		0.879		0.614				0.922			0.981	
Satd. Flow (perm)	0	3049	0	1117	1863	1531	0	1711	0	0	1747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				48		3			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	31	220	48	0	201	0	0	157	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		8			17			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	35.0	35.0		20.0	55.0	55.0	44.0	44.0		44.0	44.0	
Total Split (s)	35.0	35.0		20.0	55.0	55.0	44.0	44.0		44.0	44.0	
Total Split (%)	35.4%	35.4%		20.2%	55.6%	55.6%	44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0		4.0	5.0	5.0		5.0			5.0	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effect Green (s)		30.0		51.0	50.0	50.0		39.0			39.0	
Actuated g/C Ratio		0.30		0.52	0.51	0.51		0.39			0.39	
v/c Ratio		0.24		0.05	0.23	0.06		0.30			0.22	
Control Delay		24.8		12.4	14.6	4.0		21.8			17.9	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		24.8		12.4	14.6	4.0		21.8			17.9	
LOS		C		B	B	A		C			B	
Approach Delay		24.8			12.7			21.8			17.9	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021






Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		50		9	75	0		84			54	
Queue Length 95th (ft)		76		21	106	15		139			95	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)				150								
Base Capacity (vph)		935		680	940	796		675			702	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.24		0.05	0.23	0.06		0.30			0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 99
 Actuated Cycle Length: 99
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 100
 Control Type: Pretimed
 Maximum v/c Ratio: 0.30
 Intersection Signal Delay: 18.7
 Intersection Capacity Utilization 111.7%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service H









Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R) 44 s	 Ø4 35 s	 Ø3 20 s
 Ø6 (R) 44 s	 Ø8 55 s	

Lanes, Volumes, Timings

5: Chenango Street & Centennial Plaza

10/07/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	190	15	35	137
Future Volume (vph)	0	0	190	15	35	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1862	0	0	1862
Flt Permitted						0.990
Satd. Flow (perm)	0	0	1862	0	0	1862
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	228	0	0	197
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free




















Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 26.7%
 Analysis Period (min) 15

ICU Level of Service A

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1717	0	1787	1749	0	0	1823	0	1752	1771	0
Flt Permitted	0.688			0.646				0.879		0.627		
Satd. Flow (perm)	1235	1717	0	1196	1749	0	0	1624	0	1155	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			40			5			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	176	0	15	107	0	0	205	0	29	187	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	
Control Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
LOS	B	A		B	A			B		B	B	
Approach Delay		10.9			8.4			16.7			14.2	
Approach LOS		B			A			B			B	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	28	34		4	16			62		8	48	
Queue Length 95th (ft)	54	65		11	32			111		20	77	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	576	823		558	837			652		462	723	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 12.8
 Intersection Capacity Utilization 90.8%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 6: Chenango Street & Lewis Street

 Ø2 (R) 35 s	 Ø4 40 s
 Ø6 (R) 35 s	 Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/07/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	0	10	3	0
Future Volume (vph)	11	15	0	10	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1881	1881	0
Flt Permitted	0.979					
Satd. Flow (perm)	1698	0	0	1881	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	13	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.9% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔			↑	↑	
Traffic Vol, veh/h	11	15	0	10	3	0
Future Vol, veh/h	11	15	0	10	3	0
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	26	0	13	4	0

















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	17	4	0
Stage 1	4	-	-
Stage 2	13	-	-
Critical Hdwy	6.41	6.21	-
Critical Hdwy Stg 1	5.41	-	-
Critical Hdwy Stg 2	5.41	-	-
Follow-up Hdwy	3.509	3.309	-
Pot Cap-1 Maneuver	1004	1082	0
Stage 1	1022	-	0
Stage 2	1012	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	1004	1082	-
Mov Cap-2 Maneuver	1004	-	-
Stage 1	1022	-	-
Stage 2	1012	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 1048	-
HCM Lane V/C Ratio	- 0.044	-
HCM Control Delay (s)	- 8.6	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0.1	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	0	0	0	0	39	18	4	35	0
Future Volume (vph)	9	4	21	0	0	0	0	39	18	4	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1640	0	0	0	0	0	1732	0	1641	1727	0
Flt Permitted		0.987								0.950		
Satd. Flow (perm)	0	1640	0	0	0	0	0	1732	0	1641	1727	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		924			851			281			295	
Travel Time (s)		21.0			19.3			6.4			6.7	
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.73	0.73	0.73	0.53	0.53	0.53
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	0	0	0	78	0	8	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 14.9%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	9	4	21	0	0	0	0	39	18	4	35	0
Future Vol, veh/h	9	4	21	0	0	0	0	39	18	4	35	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	10	10	10
Mvmt Flow	11	5	25	0	0	0	0	53	25	8	66	0
















Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	148	161	70	-	0	0	79	0	0
Stage 1	82	82	-	-	-	-	-	-	-
Stage 2	66	79	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25	-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.45	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	-	-	-	2.29	-	-
Pot Cap-1 Maneuver	837	726	984	0	-	-	1470	-	0
Stage 1	934	821	-	0	-	-	-	-	0
Stage 2	949	823	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	833	0	980	-	-	-	1470	-	-
Mov Cap-2 Maneuver	833	0	-	-	-	-	-	-	-
Stage 1	934	0	-	-	-	-	-	-	-
Stage 2	944	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	931	1470	-
HCM Lane V/C Ratio	-	-	0.043	0.005	-
HCM Control Delay (s)	-	-	9	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	0	0	0	0	67	8	6	70	0
Future Volume (vph)	7	20	8	0	0	0	0	67	8	6	70	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1785	0	0	0	0	0	1837	0	0	1837	0
Flt Permitted		0.990									0.996	
Satd. Flow (perm)	0	1785	0	0	0	0	0	1837	0	0	1837	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.90	0.90	0.90	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	0	0	0	104	0	0	136	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 24.2%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/07/2021

Intersection









Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	7	20	8	0	0	0	0	67	8	6	70	0
Future Vol, veh/h	7	20	8	0	0	0	0	67	8	6	70	0
Peak Hour Factor	0.69	0.69	0.69	0.90	0.90	0.90	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	10	29	12	0	0	0	0	93	11	11	125	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0
Approach	EB							NB		SB		
Opposing Approach								SB		NB		
Opposing Lanes	0							1		1		
Conflicting Approach Left	SB							EB				
Conflicting Lanes Left	1							1		0		
Conflicting Approach Right	NB									EB		
Conflicting Lanes Right	1							0		1		
HCM Control Delay	7.6							7.7		8		
HCM LOS	A							A		A		

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	20%	8%
Vol Thru, %	89%	57%	92%
Vol Right, %	11%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	75	35	76
LT Vol	0	7	6
Through Vol	67	20	70
RT Vol	8	8	0
Lane Flow Rate	104	51	136
Geometry Grp	1	1	1
Degree of Util (X)	0.118	0.061	0.156
Departure Headway (Hd)	4.062	4.359	4.135
Convergence, Y/N	Yes	Yes	Yes
Cap	875	827	862
Service Time	2.124	2.359	2.189
HCM Lane V/C Ratio	0.119	0.062	0.158
HCM Control Delay	7.7	7.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.2	0.6

Lanes, Volumes, Timings
10: Carroll Street & Pine Street

10/07/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	102	20	15	84
Future Volume (vph)	0	0	102	20	15	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1534	0	0	1797
Flt Permitted						0.993
Satd. Flow (perm)	0	0	1534	0	0	1797
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	160	0	0	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 30.3% ICU Level of Service A
Analysis Period (min) 15

Lanes, Volumes, Timings
 1: Chapman Street/Stadium Parking & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	87	17	12	143	70	34	27	12	0	0	1
Future Volume (vph)	85	87	17	12	143	70	34	27	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1752	1792	0	1787	1775	0	1687	1685	0	1881	1564	0
Flt Permitted	0.607			0.687			0.757					
Satd. Flow (perm)	1117	1792	0	1289	1775	0	1342	1685	0	1881	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			65			14			722	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	3		3	3		3	1					1
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.83	0.83	0.83	0.50	0.50	0.50
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	109	0	14	244	0	41	47	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	30.0	30.0		30.0	30.0		17.0	17.0			17.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30			0.30	
v/c Ratio	0.15	0.11		0.02	0.25		0.10	0.09			0.00	
Control Delay	7.8	6.2		6.7	6.1		15.4	11.9			0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	7.8	6.2		6.7	6.1		15.4	11.9			0.0	
LOS	A	A		A	A		B	B			A	
Approach Delay		7.0			6.1			13.5				

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B				
Queue Length 50th (ft)	14	14		2	29		10	8			0	
Queue Length 95th (ft)	34	33		8	58		27	25			0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)	270			135			135					
Base Capacity (vph)	587	951		678	965		400	512			973	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.15	0.11		0.02	0.25		0.10	0.09			0.00	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 7.6

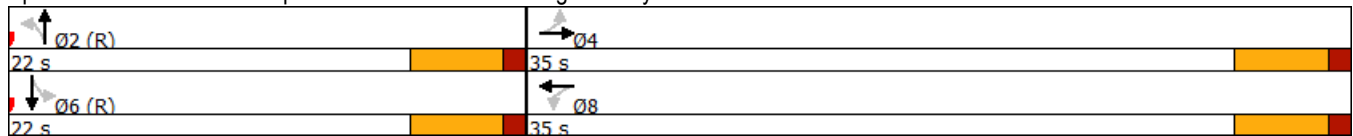
Intersection LOS: A

Intersection Capacity Utilization 76.7%

ICU Level of Service D


















Analysis Period (min) 15

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street



Lanes, Volumes, Timings
2: Fayette Street & Henry Street













10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	106	16	29	90	59	16	57	15	68	26	12
Future Volume (vph)	8	106	16	29	90	59	16	57	15	68	26	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1822	0	0	1823	1568	0	1811	0	0	1714	0
Flt Permitted		0.984			0.908			0.942			0.765	
Satd. Flow (perm)	0	1797	0	0	1649	1523	0	1713	0	0	1347	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				65		21			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	5		67	67		5	23		6	6		23
Confl. Bikes (#/hr)			2			3			3			1
Peak Hour Factor	0.65	0.65	0.65	0.91	0.91	0.91	0.72	0.72	0.72	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	131	65	0	122	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%	55.6%	44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0	20.0		15.0			15.0	
Actuated g/C Ratio		0.44			0.44	0.44		0.33			0.33	
v/c Ratio		0.25			0.18	0.09		0.21			0.24	
Control Delay		8.7			8.4	2.9		10.4			11.6	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		8.7			8.4	2.9		10.4			11.6	
LOS		A			A	A		B			B	
Approach Delay		8.7			6.6			10.4			11.6	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/07/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		46			19	0		18			18	
Queue Length 95th (ft)		57			43	14		34			45	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)						110						
Base Capacity (vph)		810			732	713		585			457	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.25			0.18	0.09		0.21			0.24	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 58.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R)	 Ø4
20 s	25 s
 Ø6 (R)	 Ø8
20 s	25 s

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	108	38	27	91	27	17	5	9	1	23	14
Future Volume (vph)	0	108	38	27	91	27	17	5	9	1	23	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	3405	0	1787	3430	0	0	1746	0	0	1764	0
Flt Permitted				0.621				0.887			0.997	
Satd. Flow (perm)	0	3405	0	1156	3430	0	0	1575	0	0	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			31			11			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	11		16	16		11	21		4	4		21
Peak Hour Factor	0.70	0.70	0.70	0.87	0.87	0.87	0.83	0.83	0.83	0.59	0.59	0.59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	31	136	0	0	37	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)		51.0		51.0	51.0			31.0			31.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.34			0.34	
v/c Ratio		0.11		0.05	0.07			0.07			0.10	
Control Delay		6.8		11.0	8.2			15.8			14.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		6.8		11.0	8.2			15.8			14.6	
LOS		A		B	A			B			B	
Approach Delay		6.8			8.7			15.8			14.6	
Approach LOS		A			A			B			B	

Lanes, Volumes, Timings

3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		19		7	12			10			15	
Queue Length 95th (ft)		25		21	27			28			25	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)				115								
Base Capacity (vph)		1952		655	1957			549			622	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.11		0.05	0.07			0.07			0.10	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.11
 Intersection Signal Delay: 9.2
 Intersection Capacity Utilization 75.0%
 Analysis Period (min) 15



















Intersection LOS: A
 ICU Level of Service D

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

Ø2 (R) 35 s	Ø4 55 s
Ø6 (R) 35 s	Ø8 55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Future Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	3380	0	1787	1881	1599	0	1797	0	0	1804	0
Flt Permitted		0.917		0.634				0.933			0.963	
Satd. Flow (perm)	0	3108	0	1169	1881	1538	0	1688	0	0	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39				40		15			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	18		27	27		18	12		43	43		12
Confl. Bikes (#/hr)			3			1			6			2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.72	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	0	24	77	40	0	178	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		8			17			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	35.0	35.0		20.0	55.0	55.0	44.0	44.0		44.0	44.0	
Total Split (s)	35.0	35.0		20.0	55.0	55.0	44.0	44.0		44.0	44.0	
Total Split (%)	35.4%	35.4%		20.2%	55.6%	55.6%	44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0		4.0	5.0	5.0		5.0			5.0	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effect Green (s)		30.0		51.0	50.0	50.0		39.0			39.0	
Actuated g/C Ratio		0.30		0.52	0.51	0.51		0.39			0.39	
v/c Ratio		0.19		0.03	0.08	0.05		0.26			0.22	
Control Delay		20.7		12.2	13.0	4.2		19.8			18.9	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		20.7		12.2	13.0	4.2		19.8			18.9	
LOS		C		B	B	A		B			B	
Approach Delay		20.7			10.4			19.8			18.9	

Lanes, Volumes, Timings

4: Chenango Street & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C				B				B		
Queue Length 50th (ft)		35		7	24	0		68			56	
Queue Length 95th (ft)		57		18	44	15		118			76	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)				150								
Base Capacity (vph)		969		702	950	796		674			695	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.19		0.03	0.08	0.05		0.26			0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 99
 Actuated Cycle Length: 99
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 100
 Control Type: Pretimed
 Maximum v/c Ratio: 0.26
 Intersection Signal Delay: 17.8
 Intersection Capacity Utilization 111.7%
 Analysis Period (min) 15









Intersection LOS: B
 ICU Level of Service H

Splits and Phases: 4: Chenango Street & Henry Street

Ø2 (R) 44 s	Ø4 35 s	Ø3 20 s
Ø6 (R) 44 s	Ø8 55 s	

Lanes, Volumes, Timings
5: Chenango Street & Centennial Plaza

10/07/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	190	15	35	137
Future Volume (vph)	0	0	190	15	35	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1862	0	0	1862
Flt Permitted						0.990
Satd. Flow (perm)	0	0	1862	0	0	1862
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	228	0	0	239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 26.7% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Future Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1787	1788	0	1736	1729	0	0	1817	0	1787	1760	0
Flt Permitted	0.676			0.675				0.941		0.656		
Satd. Flow (perm)	1265	1788	0	1230	1729	0	0	1721	0	1212	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			39			13			41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	6		3	3		6	14		19	19		14
Confl. Bikes (#/hr)			1						4			4
Peak Hour Factor	0.93	0.93	0.93	0.64	0.64	0.64	0.84	0.84	0.84	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	128	0	11	127	0	0	176	0	13	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	
Control Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
LOS	B	A		B	A			B		B	B	
Approach Delay		9.9			8.9			15.1			11.1	

Lanes, Volumes, Timings

6: Chenango Street & Lewis Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	16	23		3	22			49		4	24	
Queue Length 95th (ft)	38	51		8	32			84		14	57	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	590	854		574	827			696		484	728	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/07/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	11	0	16	11	0
Future Volume (vph)	10	11	0	16	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1707	0	0	1881	1743	0
Flt Permitted	0.977					
Satd. Flow (perm)	1707	0	0	1881	1743	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			6			6
Peak Hour Factor	0.59	0.59	0.57	0.57	0.69	0.69
Heavy Vehicles (%)	1%	1%	1%	1%	9%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	28	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 15.1% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔			↑	↑	
Traffic Vol, veh/h	10	11	0	16	11	0
Future Vol, veh/h	10	11	0	16	11	0
Conflicting Peds, #/hr	0	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	57	57	69	69
Heavy Vehicles, %	1	1	1	1	9	9
Mvmt Flow	17	19	0	28	16	0

















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	44	16	0
Stage 1	16	-	-
Stage 2	28	-	-
Critical Hdwy	6.41	6.21	-
Critical Hdwy Stg 1	5.41	-	-
Critical Hdwy Stg 2	5.41	-	-
Follow-up Hdwy	3.509	3.309	-
Pot Cap-1 Maneuver	969	1066	0
Stage 1	1009	-	0
Stage 2	997	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	969	1066	-
Mov Cap-2 Maneuver	969	-	-
Stage 1	1009	-	-
Stage 2	997	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 1017	-
HCM Lane V/C Ratio	- 0.035	-
HCM Control Delay (s)	- 8.7	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0.1	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	7	16	0	0	0	0	60	11	3	26	0
Future Volume (vph)	13	7	16	0	0	0	0	60	11	3	26	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1701	0	0	0	0	0	1676	0	1787	1881	0
Flt Permitted		0.982								0.950		
Satd. Flow (perm)	0	1701	0	0	0	0	0	1676	0	1787	1881	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		924			851			281			295	
Travel Time (s)		21.0			19.3			6.4			6.7	
Confl. Peds. (#/hr)			7	7			2		7	7		2
Confl. Bikes (#/hr)						1			4			1
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.83	0.83	0.83	0.73	0.73	0.73
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	11%	11%	11%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	0	0	0	85	0	4	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.0% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
8: Chapman Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	13	7	16	0	0	0	0	60	11	3	26	0
Future Vol, veh/h	13	7	16	0	0	0	0	60	11	3	26	0
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	90	90	90	83	83	83	73	73	73
Heavy Vehicles, %	3	3	3	1	1	1	11	11	11	1	1	1
Mvmt Flow	15	8	19	0	0	0	0	72	13	4	36	0
















Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	123	136	43	-	0	0	92	0	0
Stage 1	44	44	-	-	-	-	-	-	-
Stage 2	79	92	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	-	-	-	4.11	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.209	-	-
Pot Cap-1 Maneuver	870	753	1025	0	-	-	1509	-	0
Stage 1	976	856	-	0	-	-	-	-	0
Stage 2	942	817	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	867	0	1018	-	-	-	1509	-	-
Mov Cap-2 Maneuver	867	0	-	-	-	-	-	-	-
Stage 1	976	0	-	-	-	-	-	-	-
Stage 2	939	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	944	1509	-
HCM Lane V/C Ratio	-	-	0.044	0.003	-
HCM Control Delay (s)	-	-	9	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	31	4	9	0	0	0	57	17	15	56	0
Future Volume (vph)	7	31	4	9	0	0	0	57	17	15	56	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1840	0	0	0	0	0	1823	0	0	1860	0
Flt Permitted		0.992			0.950						0.989	
Satd. Flow (perm)	0	1840	0	0	0	0	0	1823	0	0	1860	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	2		19	19		2	40		22	22		40
Confl. Bikes (#/hr)			2			3			4			2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	16	0	0	117	0	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization Err%
 Analysis Period (min) 15
 ICU Level of Service H

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/07/2021

Intersection

Intersection Delay, s/veh	7.6
Intersection LOS	A









Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	7	31	4	9	0	0	0	57	17	15	56	0
Future Vol, veh/h	7	31	4	9	0	0	0	57	17	15	56	0
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	43	6	16	0	0	0	90	27	17	62	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.6	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	17%	21%
Vol Thru, %	77%	74%	79%
Vol Right, %	23%	10%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	74	42	71
LT Vol	0	7	15
Through Vol	57	31	56
RT Vol	17	4	0
Lane Flow Rate	117	58	79
Geometry Grp	1	1	1
Degree of Util (X)	0.129	0.069	0.091
Departure Headway (Hd)	3.941	4.228	4.151
Convergence, Y/N	Yes	Yes	Yes
Cap	903	835	857
Service Time	1.993	2.315	2.207
HCM Lane V/C Ratio	0.13	0.069	0.092
HCM Control Delay	7.6	7.6	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

10/07/2021



















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	44	26	18	56
Future Volume (vph)	0	0	44	26	18	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1601	0	0	1738
Flt Permitted						0.988
Satd. Flow (perm)	0	0	1601	0	0	1738
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	20			143	3	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.25	0.64	0.87	0.87
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	217	0	0	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 16.6% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
 1: Chapman Street/Stadium Parking & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	21	168	23	39	5	4	1	0	7
Future Volume (vph)	23	184	18	21	168	23	39	5	4	1	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1760	0	0	1802	0	1703	1647	0	1687	1457	0
Flt Permitted		0.954			0.957		0.748			0.750		
Satd. Flow (perm)	0	1687	0	0	1733	0	1328	1647	0	1319	1457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			16			5			603	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	262	0	0	291	0	48	11	0	2	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30		0.30	0.30	
v/c Ratio		0.29			0.32		0.12	0.02		0.01	0.02	
Control Delay		8.3			8.4		15.6	11.7		14.0	0.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		8.3			8.4		15.6	11.7		14.0	0.0	
LOS		A			A		B	B		B	A	
Approach Delay		8.3			8.4			14.9			1.8	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		43			48		12	1		1	0	
Queue Length 95th (ft)		76			66		29	10		2	0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135			100		
Base Capacity (vph)		893			919		396	494		393	857	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.29			0.32		0.12	0.02		0.01	0.02	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 8.8

Intersection Capacity Utilization 47.5%

Analysis Period (min) 15

Intersection LOS: A

















ICU Level of Service A

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s				Ø4 35 s							
Ø6 (R) 22 s				Ø8 35 s							













Lanes, Volumes, Timings 2: Fayette Street & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	13	153	48	21	36	17	73	48	14
Future Volume (vph)	5	135	15	13	153	48	21	36	17	73	48	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1794	0	0	1738	0	0	1749	0	0	1685	0
Flt Permitted		0.989			0.981			0.894			0.795	
Satd. Flow (perm)	0	1777	0	0	1710	0	0	1584	0	0	1371	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			41			21			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	251	0	0	91	0	0	171	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.22			0.32			0.17			0.37	
Control Delay		4.9			8.1			9.6			13.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.9			8.1			9.6			13.3	
LOS		A			A			A			B	
Approach Delay		4.9			8.1			9.6			13.3	

Lanes, Volumes, Timings
 2: Fayette Street & Henry Street

10/07/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			B	
Queue Length 50th (ft)		14			32			12			30	
Queue Length 95th (ft)		30			63			31			57	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		798			782			542			466	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.22			0.32			0.17			0.37	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 8.8
 Intersection Capacity Utilization 38.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R)	 Ø4
20 s	25 s
 Ø6 (R)	 Ø8
20 s	25 s













Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	111	45	31	157	0	71	0	31	13	23	14
Future Volume (vph)	0	111	45	31	157	0	71	0	31	13	23	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1754	0	0	1866	0	0	1629	0	0	1531	0
Flt Permitted					0.939			0.774			0.927	
Satd. Flow (perm)	0	1754	0	0	1764	0	0	1278	0	0	1435	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37						27			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	13		14	14		13	23		7	7		23
Confl. Bikes (#/hr)			8			5			2			3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.76	0.76	0.76	0.70	0.70	0.70
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	0	0	216	0	0	134	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		51.0			51.0			31.0			31.0	
Actuated g/C Ratio		0.57			0.57			0.34			0.34	
v/c Ratio		0.17			0.22			0.29			0.14	
Control Delay		3.5			13.0			19.1			15.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			13.0			19.1			15.4	
LOS		A			B			B			B	
Approach Delay		3.5			13.0			19.1			15.4	

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			B	
Queue Length 50th (ft)		2			56			43			18	
Queue Length 95th (ft)		22			91			71			34	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)												
Base Capacity (vph)		1009			999			457			507	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.17			0.22			0.29			0.14	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.29
 Intersection Signal Delay: 11.9
 Intersection Capacity Utilization 41.7%
 Analysis Period (min) 15

















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

 Ø2 (R)	 Ø4
35 s	55 s
 Ø6 (R)	 Ø8
35 s	55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Future Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1823	0	0	1803	0	0	1845	0	0	1779	0
Flt Permitted		0.918			0.954			0.925			0.982	
Satd. Flow (perm)	0	1685	0	0	1724	0	0	1716	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			14			4			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	299	0	0	201	0	0	157	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.29			0.39			0.26			0.20	
Control Delay		16.5			16.9			16.6			13.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.5			16.9			16.6			13.2	
LOS		B			B			B			B	
Approach Delay		16.5			16.9			16.6			13.2	

Lanes, Volumes, Timings

4: Chenango Street & Henry Street

10/07/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		74			123			68			43	
Queue Length 95th (ft)		118			180			116			78	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		754			774			764			793	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.39			0.26			0.20	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 16.1
 Intersection Capacity Utilization 43.8%
 Analysis Period (min) 15









Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R) 45 s	 Ø4 45 s
 Ø6 (R) 45 s	 Ø8 45 s

Lanes, Volumes, Timings
5: Chenango Street & Centennial Plaza

10/07/2021




















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	190	15	35	137
Future Volume (vph)	0	0	190	15	35	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1862	0	0	1862
Flt Permitted						0.990
Satd. Flow (perm)	0	0	1862	0	0	1862
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	228	0	0	197
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 26.7% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1717	0	1787	1749	0	0	1823	0	1752	1771	0
Flt Permitted	0.688			0.646				0.879		0.627		
Satd. Flow (perm)	1235	1717	0	1196	1749	0	0	1624	0	1155	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			40			5			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	176	0	15	107	0	0	205	0	29	187	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	
Control Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
LOS	B	A		B	A			B		B	B	
Approach Delay		10.9			8.4			16.7			14.2	
Approach LOS		B			A			B			B	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	28	34		4	16			62		8	48	
Queue Length 95th (ft)	54	65		11	32			111		20	77	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	576	823		558	837			652		462	723	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 12.8
 Intersection Capacity Utilization 90.8%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/07/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	0	10	3	0
Future Volume (vph)	11	15	0	10	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1881	1881	0
Flt Permitted	0.979					
Satd. Flow (perm)	1698	0	0	1881	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	13	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.9% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔			↑	↑	
Traffic Vol, veh/h	11	15	0	10	3	0
Future Vol, veh/h	11	15	0	10	3	0
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	26	0	13	4	0

















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	17	4	0
Stage 1	4	-	-
Stage 2	13	-	-
Critical Hdwy	6.41	6.21	-
Critical Hdwy Stg 1	5.41	-	-
Critical Hdwy Stg 2	5.41	-	-
Follow-up Hdwy	3.509	3.309	-
Pot Cap-1 Maneuver	1004	1082	0
Stage 1	1022	-	0
Stage 2	1012	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	1004	1082	-
Mov Cap-2 Maneuver	1004	-	-
Stage 1	1022	-	-
Stage 2	1012	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 1048	-
HCM Lane V/C Ratio	- 0.044	-
HCM Control Delay (s)	- 8.6	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0.1	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	0	0	0	0	39	18	4	35	0
Future Volume (vph)	9	4	21	0	0	0	0	39	18	4	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1640	0	0	0	0	0	1732	0	1641	1727	0
Flt Permitted		0.987								0.950		
Satd. Flow (perm)	0	1640	0	0	0	0	0	1732	0	1641	1727	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		924			851			281			295	
Travel Time (s)		21.0			19.3			6.4			6.7	
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.73	0.73	0.73	0.53	0.53	0.53
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	0	0	0	78	0	8	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 14.9%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	9	4	21	0	0	0	0	39	18	4	35	0
Future Vol, veh/h	9	4	21	0	0	0	0	39	18	4	35	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	10	10	10
Mvmt Flow	11	5	25	0	0	0	0	53	25	8	66	0
















Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	148	161	70	-	0	0	79	0	0
Stage 1	82	82	-	-	-	-	-	-	-
Stage 2	66	79	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25	-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.45	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	-	-	-	2.29	-	-
Pot Cap-1 Maneuver	837	726	984	0	-	-	1470	-	0
Stage 1	934	821	-	0	-	-	-	-	0
Stage 2	949	823	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	833	0	980	-	-	-	1470	-	-
Mov Cap-2 Maneuver	833	0	-	-	-	-	-	-	-
Stage 1	934	0	-	-	-	-	-	-	-
Stage 2	944	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	931	1470	-
HCM Lane V/C Ratio	-	-	0.043	0.005	-
HCM Control Delay (s)	-	-	9	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	0	0	0	0	67	8	6	70	0
Future Volume (vph)	7	20	8	0	0	0	0	67	8	6	70	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1785	0	0	0	0	0	1837	0	0	1837	0
Flt Permitted		0.990									0.996	
Satd. Flow (perm)	0	1785	0	0	0	0	0	1837	0	0	1837	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.90	0.90	0.90	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	0	0	0	104	0	0	136	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 24.2%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/07/2021

Intersection









Intersection Delay, s/veh 7.8
 Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	7	20	8	0	0	0	0	67	8	6	70	0
Future Vol, veh/h	7	20	8	0	0	0	0	67	8	6	70	0
Peak Hour Factor	0.69	0.69	0.69	0.90	0.90	0.90	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	10	29	12	0	0	0	0	93	11	11	125	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0
Approach	EB							NB		SB		
Opposing Approach								SB		NB		
Opposing Lanes	0							1		1		
Conflicting Approach Left	SB							EB				
Conflicting Lanes Left	1							1		0		
Conflicting Approach Right	NB									EB		
Conflicting Lanes Right	1							0		1		
HCM Control Delay	7.6							7.7		8		
HCM LOS	A							A		A		

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	20%	8%
Vol Thru, %	89%	57%	92%
Vol Right, %	11%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	75	35	76
LT Vol	0	7	6
Through Vol	67	20	70
RT Vol	8	8	0
Lane Flow Rate	104	51	136
Geometry Grp	1	1	1
Degree of Util (X)	0.118	0.061	0.156
Departure Headway (Hd)	4.062	4.359	4.135
Convergence, Y/N	Yes	Yes	Yes
Cap	875	827	862
Service Time	2.124	2.359	2.189
HCM Lane V/C Ratio	0.119	0.062	0.158
HCM Control Delay	7.7	7.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.2	0.6

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

10/07/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	102	20	15	84
Future Volume (vph)	0	0	102	20	15	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1534	0	0	1797
Flt Permitted						0.993
Satd. Flow (perm)	0	0	1534	0	0	1797
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	160	0	0	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 30.3% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street













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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	87	17	12	143	70	34	27	12	0	0	1
Future Volume (vph)	85	87	17	12	143	70	34	27	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1779	0	0	1784	0	1687	1685	0	1881	1564	0
Flt Permitted		0.782			0.984		0.757					
Satd. Flow (perm)	0	1421	0	0	1760	0	1342	1685	0	1881	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			60			14			722	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	3		3	3		3	1					1
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.83	0.83	0.83	0.50	0.50	0.50
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	258	0	41	47	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0			17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30			0.30	
v/c Ratio		0.26			0.27		0.10	0.09			0.00	
Control Delay		8.1			6.5		15.4	11.9			0.0	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		8.1			6.5		15.4	11.9			0.0	
LOS		A			A		B	B			A	
Approach Delay		8.1			6.5			13.5				

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/07/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B				
Queue Length 50th (ft)		31			33		10	8			0	
Queue Length 95th (ft)		63			63		27	25			0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135					
Base Capacity (vph)		754			954		400	512			973	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.26			0.27		0.10	0.09			0.00	

Intersection Summary

Area Type: Other
 Cycle Length: 57
 Actuated Cycle Length: 57
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.27
 Intersection Signal Delay: 8.2
 Intersection Capacity Utilization 64.7%
 Analysis Period (min) 15

















Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

 Ø2 (R) 22 s	 Ø4 35 s
 Ø6 (R) 22 s	 Ø8 35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street













10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	106	16	29	90	59	16	57	15	68	26	12
Future Volume (vph)	8	106	16	29	90	59	16	57	15	68	26	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1822	0	0	1731	0	0	1811	0	0	1714	0
Flt Permitted		0.981			0.935			0.942			0.765	
Satd. Flow (perm)	0	1792	0	0	1615	0	0	1713	0	0	1347	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			65			21			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	5		67	67		5	23		6	6		23
Confl. Bikes (#/hr)			2			3			3			1
Peak Hour Factor	0.65	0.65	0.65	0.91	0.91	0.91	0.72	0.72	0.72	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	196	0	0	122	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.25			0.26			0.21			0.24	
Control Delay		6.4			6.5			10.4			11.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.4			6.5			10.4			11.6	
LOS		A			A			B			B	
Approach Delay		6.4			6.5			10.4			11.6	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/07/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		36			19			18			18	
Queue Length 95th (ft)		41			48			34			45	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		808			753			585			457	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.26			0.21			0.24	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.26
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 39.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R)	 Ø4
20 s	25 s
 Ø6 (R)	 Ø8
20 s	25 s

Lanes, Volumes, Timings

3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	108	38	27	91	0	27	0	17	5	9	1
Future Volume (vph)	0	108	38	27	91	0	27	0	17	5	9	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1799	0	0	1860	0	0	1715	0	0	1823	0
Flt Permitted					0.916			0.865			0.949	
Satd. Flow (perm)	0	1799	0	0	1719	0	0	1501	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32						20			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	11		16	16		11	21		4	4		21
Peak Hour Factor	0.70	0.70	0.70	0.87	0.87	0.87	0.83	0.83	0.83	0.59	0.59	0.59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	136	0	0	53	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		51.0			51.0			31.0			31.0	
Actuated g/C Ratio		0.57			0.57			0.34			0.34	
v/c Ratio		0.20			0.14			0.10			0.04	
Control Delay		7.2			11.0			14.7			18.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.2			11.0			14.7			18.3	
LOS		A			B			B			B	
Approach Delay		7.2			11.0			14.7			18.3	
Approach LOS		A			B			B			B	

Lanes, Volumes, Timings

3: Carroll Street/Centennial Plaza & Henry Street

10/07/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		35			33			12			8	
Queue Length 95th (ft)		44			63			34			15	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)												
Base Capacity (vph)		1033			974			530			606	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.14			0.10			0.04	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.20
 Intersection Signal Delay: 10.0
 Intersection Capacity Utilization 29.4%
 Analysis Period (min) 15

















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

 Ø2 (R) 35 s	 Ø4 55 s
 Ø6 (R) 35 s	 Ø8 55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Future Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1778	0	0	1762	0	0	1766	0	0	1799	0
Flt Permitted		0.958			0.939			0.935			0.964	
Satd. Flow (perm)	0	1706	0	0	1655	0	0	1660	0	0	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			29			18			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	18		27	27		18	12		43	43		12
Confl. Bikes (#/hr)			3			1			6			2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.72	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	0	0	141	0	0	178	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.24			0.19			0.24			0.20	
Control Delay		14.8			8.3			14.9			14.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			8.3			14.9			14.2	
LOS		B			A			B			B	
Approach Delay		14.8			8.3			14.9			14.2	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/07/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		56			18			54			44	
Queue Length 95th (ft)		92			31			98			63	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		769			751			747			778	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.19			0.24			0.20	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.24
 Intersection Signal Delay: 13.3
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15









Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R) 45 s	 Ø4 45 s
 Ø6 (R) 45 s	 Ø8 45 s

Lanes, Volumes, Timings
5: Chenango Street & Centennial Plaza

10/07/2021




















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	148	5	10	109
Future Volume (vph)	0	0	148	5	10	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1872	0	0	1874
Flt Permitted						0.996
Satd. Flow (perm)	0	0	1872	0	0	1874
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	170	0	0	165
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 17.4% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Future Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1787	1788	0	1736	1729	0	0	1817	0	1787	1760	0
Flt Permitted	0.676			0.675				0.941		0.656		
Satd. Flow (perm)	1265	1788	0	1230	1729	0	0	1721	0	1212	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			39			13			41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	6		3	3		6	14		19	19		14
Confl. Bikes (#/hr)			1						4			4
Peak Hour Factor	0.93	0.93	0.93	0.64	0.64	0.64	0.84	0.84	0.84	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	128	0	11	127	0	0	176	0	13	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	
Control Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
LOS	B	A		B	A			B		B	B	
Approach Delay		9.9			8.9			15.1			11.1	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/07/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	16	23		3	22			49		4	24	
Queue Length 95th (ft)	38	51		8	32			84		14	57	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	590	854		574	827			696		484	728	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/07/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	11	0	16	11	0
Future Volume (vph)	10	11	0	16	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1707	0	0	1881	1743	0
Flt Permitted	0.977					
Satd. Flow (perm)	1707	0	0	1881	1743	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			6			6
Peak Hour Factor	0.59	0.59	0.57	0.57	0.69	0.69
Heavy Vehicles (%)	1%	1%	1%	1%	9%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	28	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 15.1% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	10	11	0	16	11	0
Future Vol, veh/h	10	11	0	16	11	0
Conflicting Peds, #/hr	0	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	57	57	69	69
Heavy Vehicles, %	1	1	1	1	9	9
Mvmt Flow	17	19	0	28	16	0

Major/Minor	Minor2	Major1	Major2
-------------	--------	--------	--------

Conflicting Flow All	44	16	-	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	28	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	-	-
Pot Cap-1 Maneuver	969	1066	0	-	-	0
Stage 1	1009	-	0	-	-	0
Stage 2	997	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	969	1066	-	-	-	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	EB	NB	SB
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














HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
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Capacity (veh/h)	- 1017	-
HCM Lane V/C Ratio	- 0.035	-
HCM Control Delay (s)	- 8.7	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0.1	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	7	16	0	0	0	0	60	11	3	26	0
Future Volume (vph)	13	7	16	0	0	0	0	60	11	3	26	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1701	0	0	0	0	0	1676	0	1787	1881	0
Flt Permitted		0.982								0.950		
Satd. Flow (perm)	0	1701	0	0	0	0	0	1676	0	1787	1881	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		924			851			281			295	
Travel Time (s)		21.0			19.3			6.4			6.7	
Confl. Peds. (#/hr)			7	7			2		7	7		2
Confl. Bikes (#/hr)						1			4			1
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.83	0.83	0.83	0.73	0.73	0.73
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	11%	11%	11%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	0	0	0	85	0	4	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 18.0%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/07/2021

Intersection

Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔		↕	↕	
Traffic Vol, veh/h	13	7	16	0	0	0	0	60	11	3	26	0
Future Vol, veh/h	13	7	16	0	0	0	0	60	11	3	26	0
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	90	90	90	83	83	83	73	73	73
Heavy Vehicles, %	3	3	3	1	1	1	11	11	11	1	1	1
Mvmt Flow	15	8	19	0	0	0	0	72	13	4	36	0
















Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	123	136	43	-	0	0	92	0	0
Stage 1	44	44	-	-	-	-	-	-	-
Stage 2	79	92	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	-	-	-	4.11	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.209	-	-
Pot Cap-1 Maneuver	870	753	1025	0	-	-	1509	-	0
Stage 1	976	856	-	0	-	-	-	-	0
Stage 2	942	817	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	867	0	1018	-	-	-	1509	-	-
Mov Cap-2 Maneuver	867	0	-	-	-	-	-	-	-
Stage 1	976	0	-	-	-	-	-	-	-
Stage 2	939	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	944	1509	-
HCM Lane V/C Ratio	-	-	0.044	0.003	-
HCM Control Delay (s)	-	-	9	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/07/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	4	9	0	0	0	0	57	17	15	56	0
Future Volume (vph)	31	4	9	0	0	0	0	57	17	15	56	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1766	0	0	0	0	0	1823	0	0	1860	0
Flt Permitted		0.966									0.989	
Satd. Flow (perm)	0	1766	0	0	0	0	0	1823	0	0	1860	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	2		19	19		2	40		22	22		40
Confl. Bikes (#/hr)			2			3			4			2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	0	0	0	117	0	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 30.5%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
9: Fayette Street & Pine Street

10/07/2021

Intersection









Intersection Delay, s/veh 7.6
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	31	4	9	0	0	0	0	57	17	15	56	0
Future Vol, veh/h	31	4	9	0	0	0	0	57	17	15	56	0
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	43	6	13	0	0	0	0	90	27	17	62	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0
Approach	EB							NB		SB		
Opposing Approach								SB		NB		
Opposing Lanes	0							1		1		
Conflicting Approach Left	SB							EB				
Conflicting Lanes Left	1							1		0		
Conflicting Approach Right	NB									EB		
Conflicting Lanes Right	1							0		1		
HCM Control Delay	7.7							7.6		7.6		
HCM LOS	A							A		A		

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	70%	21%
Vol Thru, %	77%	9%	79%
Vol Right, %	23%	20%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	74	44	71
LT Vol	0	31	15
Through Vol	57	4	56
RT Vol	17	9	0
Lane Flow Rate	117	61	79
Geometry Grp	1	1	1
Degree of Util (X)	0.129	0.072	0.091
Departure Headway (Hd)	3.945	4.27	4.155
Convergence, Y/N	Yes	Yes	Yes
Cap	902	827	856
Service Time	1.999	2.357	2.213
HCM Lane V/C Ratio	0.13	0.074	0.092
HCM Control Delay	7.6	7.7	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3

Lanes, Volumes, Timings
10: Carroll Street & Pine Street

10/07/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	44	26	18	56
Future Volume (vph)	0	0	44	26	18	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1601	0	0	1738
Flt Permitted						0.988
Satd. Flow (perm)	0	0	1601	0	0	1738
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	20			143	3	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.25	0.64	0.87	0.87
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	217	0	0	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 16.6% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street













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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Future Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1760	0	0	1802	0	1703	1647	0	1687	1501	0
Flt Permitted		0.955			0.962		0.748			0.750		
Satd. Flow (perm)	0	1689	0	0	1742	0	1328	1647	0	1319	1501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			17			5			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	262	0	0	283	0	48	11	0	2	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30		0.30	0.30	
v/c Ratio		0.29			0.31		0.12	0.02		0.01	0.03	
Control Delay		8.3			8.3		15.6	11.7		14.0	9.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		8.3			8.3		15.6	11.7		14.0	9.1	
LOS		A			A		B	B		B	A	
Approach Delay		8.3			8.3			14.9			9.8	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		43			46		12	1		1	1	
Queue Length 95th (ft)		76			64		29	10		2	5	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135			100		
Base Capacity (vph)		894			924		396	494		393	456	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.29			0.31		0.12	0.02		0.01	0.03	

Intersection Summary

Area Type: Other
 Cycle Length: 57
 Actuated Cycle Length: 57
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 47.5%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

 Ø2 (R)	 Ø4
22 s	35 s
 Ø6 (R)	 Ø8
22 s	35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street













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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Future Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1794	0	0	1736	0	0	1749	0	0	1689	0
Flt Permitted		0.989			0.982			0.894			0.795	
Satd. Flow (perm)	0	1777	0	0	1709	0	0	1584	0	0	1374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			42			21			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	246	0	0	91	0	0	170	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.22			0.31			0.17			0.36	
Control Delay		4.9			8.0			9.6			13.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.9			8.0			9.6			13.4	
LOS		A			A			A			B	
Approach Delay		4.9			8.0			9.6			13.4	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			B	
Queue Length 50th (ft)		14			31			12			30	
Queue Length 95th (ft)		30			61			31			57	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		798			782			542			466	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.22			0.31			0.17			0.36	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.36
 Intersection Signal Delay: 8.8
 Intersection Capacity Utilization 38.5%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R) 20 s	 Ø4 25 s
 Ø6 (R) 20 s	 Ø8 25 s

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street













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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	111	45	28	157	0	71	0	31	13	23	14
Future Volume (vph)	0	111	45	28	157	0	71	0	31	13	23	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1754	0	0	1868	0	0	1629	0	0	1531	0
Flt Permitted					0.946			0.774			0.927	
Satd. Flow (perm)	0	1754	0	0	1777	0	0	1278	0	0	1435	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37						27			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	13		14	14		13	23		7	7		23
Confl. Bikes (#/hr)			8			5			2			3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.76	0.76	0.76	0.70	0.70	0.70
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	0	0	212	0	0	134	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		51.0			51.0			31.0			31.0	
Actuated g/C Ratio		0.57			0.57			0.34			0.34	
v/c Ratio		0.17			0.21			0.29			0.14	
Control Delay		3.5			13.0			19.1			15.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			13.0			19.1			15.4	
LOS		A			B			B			B	
Approach Delay		3.5			13.0			19.1			15.4	

Lanes, Volumes, Timings

3: Carroll Street/Centennial Plaza & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			B	
Queue Length 50th (ft)		2			54			43			18	
Queue Length 95th (ft)		22			89			71			34	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)												
Base Capacity (vph)		1009			1006			457			507	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.17			0.21			0.29			0.14	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.29
 Intersection Signal Delay: 11.9
 Intersection Capacity Utilization 41.5%
 Analysis Period (min) 15

















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

 Ø2 (R)	 Ø4
35 s	55 s
 Ø6 (R)	 Ø8
35 s	55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street













10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Future Volume (vph)	30	137	23	25	178	39	35	136	10	9	90	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1823	0	0	1803	0	0	1845	0	0	1779	0
Flt Permitted		0.918			0.954			0.925			0.982	
Satd. Flow (perm)	0	1685	0	0	1724	0	0	1716	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			14			4			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	299	0	0	201	0	0	157	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.29			0.39			0.26			0.20	
Control Delay		16.5			17.1			16.6			13.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.5			17.1			16.6			13.2	
LOS		B			B			B			B	
Approach Delay		16.5			17.1			16.6			13.2	

Lanes, Volumes, Timings

4: Chenango Street & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		74			124			68			43	
Queue Length 95th (ft)		118			190			116			78	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		754			774			764			793	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.39			0.26			0.20	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 16.1
 Intersection Capacity Utilization 43.8%
 Analysis Period (min) 15









Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R)	 Ø4
45 s	45 s
 Ø6 (R)	 Ø8
45 s	45 s

Lanes, Volumes, Timings
5: Chenango Street & Centennial Plaza

10/08/2021




















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	190	15	35	137
Future Volume (vph)	0	0	190	15	35	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1862	0	0	1862
Flt Permitted						0.990
Satd. Flow (perm)	0	0	1862	0	0	1862
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	228	0	0	197
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 26.7% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1717	0	1787	1749	0	0	1823	0	1752	1771	0
Flt Permitted	0.688			0.646				0.879		0.627		
Satd. Flow (perm)	1235	1717	0	1196	1749	0	0	1624	0	1155	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			40			5			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	176	0	15	107	0	0	205	0	29	187	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	
Control Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.8	9.7		11.1	8.0			16.7		14.4	14.1	
LOS	B	A		B	A			B		B	B	
Approach Delay		10.9			8.4			16.7			14.2	
Approach LOS		B			A			B			B	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	28	34		4	16			62		8	48	
Queue Length 95th (ft)	54	65		11	32			111		20	77	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	576	823		558	837			652		462	723	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.19	0.21		0.03	0.13			0.31		0.06	0.26	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 12.8
 Intersection Capacity Utilization 90.8%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 6: Chenango Street & Lewis Street

 Ø2 (R) 35 s	 Ø4 40 s
 Ø6 (R) 35 s	 Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/08/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	21	10	3	6
Future Volume (vph)	11	15	21	10	3	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1819	1712	0
Flt Permitted	0.979			0.967		
Satd. Flow (perm)	1698	0	0	1819	1712	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	41	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 18.4% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	11	15	21	10	3	6
Future Vol, veh/h	11	15	21	10	3	6
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	26	28	13	4	8



















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	82	13	17	0	0
Stage 1	13	-	-	-	-
Stage 2	69	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	922	1070	1607	-	-
Stage 1	1012	-	-	-	-
Stage 2	956	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	896	1065	1599	-	-
Mov Cap-2 Maneuver	896	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	951	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	986	-	-
HCM Lane V/C Ratio	0.018	-	0.046	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Future Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1640	0	0	1766	0	0	1727	0	1641	1719	0
Flt Permitted		0.987			0.997			0.996		0.950		
Satd. Flow (perm)	0	1640	0	0	1766	0	0	1727	0	1641	1719	0
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		924			851			281		295		
Travel Time (s)		21.0			19.3			6.4		6.7		
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.73	0.73	0.73	0.53	0.53	0.53
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	0	80	0	8	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12		12		
Link Offset(ft)		0			0			0		0		
Crosswalk Width(ft)		16			16			16		16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 20.1%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Future Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	10	10	10
Mvmt Flow	11	5	25	2	25	5	7	48	25	8	62	2

















Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	169	167	67	174	156	62	64	0	0	74	0	0
Stage 1	79	79	-	76	76	-	-	-	-	-	-	-
Stage 2	90	88	-	98	80	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	788	720	988	782	731	995	1519	-	-	1476	-	-
Stage 1	922	823	-	926	826	-	-	-	-	-	-	-
Stage 2	910	816	-	901	823	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	758	712	984	749	723	994	1519	-	-	1475	-	-
Mov Cap-2 Maneuver	758	712	-	749	723	-	-	-	-	-	-	-
Stage 1	917	819	-	920	821	-	-	-	-	-	-	-
Stage 2	874	811	-	865	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	10	0.6	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	876	755	1475	-	-
HCM Lane V/C Ratio	0.005	-	-	0.046	0.042	0.005	-	-
HCM Control Delay (s)	7.4	-	-	9.3	10	7.5	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Future Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1785	0	0	1796	0	0	1829	0	0	1830	0
Flt Permitted		0.990			0.999			0.997			0.996	
Satd. Flow (perm)	0	1785	0	0	1796	0	0	1829	0	0	1830	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	39	0	0	101	0	0	138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 18.7%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/08/2021

Intersection










Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Future Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	10	29	12	1	28	10	7	83	11	11	123	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	7.7			7.6			7.8			8.1		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	20%	4%	8%
Vol Thru, %	82%	57%	70%	90%
Vol Right, %	11%	23%	26%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	35	27	77
LT Vol	5	7	1	6
Through Vol	60	20	19	69
RT Vol	8	8	7	2
Lane Flow Rate	101	51	39	138
Geometry Grp	1	1	1	1
Degree of Util (X)	0.117	0.062	0.048	0.16
Departure Headway (Hd)	4.144	4.411	4.373	4.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	852	817	823	846
Service Time	2.237	2.413	2.375	2.268
HCM Lane V/C Ratio	0.119	0.062	0.047	0.163
HCM Control Delay	7.8	7.7	7.6	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.2	0.6

Lanes, Volumes, Timings
10: Carroll Street & Pine Street

10/08/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	20	82	20	15	81
Future Volume (vph)	6	20	82	20	15	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1588	0	1528	0	0	1795
Flt Permitted	0.989					0.992
Satd. Flow (perm)	1588	0	1528	0	0	1795
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	0	134	0	0	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.1% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
10: Carroll Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	6	20	82	20	15	81
Future Vol, veh/h	6	20	82	20	15	81
Conflicting Peds, #/hr	1	12	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	76	76	82	82
Heavy Vehicles, %	6	6	9	9	5	5
Mvmt Flow	12	40	108	26	18	99

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	266	142	0	0	143
Stage 1	130	-	-	-	-
Stage 2	136	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.15
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.245
Pot Cap-1 Maneuver	715	895	-	-	1421
Stage 1	886	-	-	-	-
Stage 2	881	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	698	877	-	-	1409
Mov Cap-2 Maneuver	698	-	-	-	-
Stage 1	878	-	-	-	-
Stage 2	868	-	-	-	-



















Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	828	1409
HCM Lane V/C Ratio	-	-	0.063	0.013
HCM Control Delay (s)	-	-	9.6	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	87	17	11	137	70	34	27	12	0	0	1
Future Volume (vph)	85	87	17	11	137	70	34	27	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1779	0	0	1781	0	1687	1685	0	1881	1564	0
Flt Permitted		0.785			0.985		0.757					
Satd. Flow (perm)	0	1426	0	0	1760	0	1342	1685	0	1881	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			63			14			735	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	3		3	3		3	1					1
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.83	0.83	0.83	0.50	0.50	0.50
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	250	0	41	47	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0			17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30			0.30	
v/c Ratio		0.26			0.26		0.10	0.09			0.00	
Control Delay		8.0			6.3		15.4	11.9			0.0	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		8.0			6.3		15.4	11.9			0.0	
LOS		A			A		B	B			A	
Approach Delay		8.0			6.3			13.5				

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B				
Queue Length 50th (ft)		31			31		10	8			0	
Queue Length 95th (ft)		63			60		27	25			0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135					
Base Capacity (vph)		756			956		400	512			982	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.26			0.26		0.10	0.09			0.00	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 8.1

Intersection Capacity Utilization 65.7%

Analysis Period (min) 15

Intersection LOS: A

















ICU Level of Service C

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s	Ø4 35 s
Ø6 (R) 22 s	Ø8 35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street













10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	106	16	26	87	59	16	57	15	68	28	10
Future Volume (vph)	8	106	16	26	87	59	16	57	15	68	28	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1822	0	0	1729	0	0	1811	0	0	1724	0
Flt Permitted		0.981			0.941			0.942			0.764	
Satd. Flow (perm)	0	1792	0	0	1624	0	0	1713	0	0	1352	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			65			21			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	5		67	67		5	23		6	6		23
Confl. Bikes (#/hr)			2			3			3			1
Peak Hour Factor	0.65	0.65	0.65	0.91	0.91	0.91	0.72	0.72	0.72	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	190	0	0	122	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.25			0.25			0.21			0.24	
Control Delay		6.4			6.3			10.4			11.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.4			6.3			10.4			11.8	
LOS		A			A			B			B	
Approach Delay		6.4			6.3			10.4			11.8	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		36			18			18			18	
Queue Length 95th (ft)		41			47			34			46	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		808			757			585			457	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.25			0.21			0.24	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R)	 Ø4
20 s	25 s
 Ø6 (R)	 Ø8
20 s	25 s

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	108	38	24	91	0	27	0	17	5	9	1
Future Volume (vph)	0	108	38	24	91	0	27	0	17	5	9	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		500	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1799	0	0	1862	0	0	1715	0	0	1823	0
Flt Permitted					0.925			0.865			0.949	
Satd. Flow (perm)	0	1799	0	0	1736	0	0	1501	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32						20			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		409			873			319			324	
Travel Time (s)		9.3			19.8			7.3			7.4	
Confl. Peds. (#/hr)	11		16	16		11	21		4	4		21
Peak Hour Factor	0.70	0.70	0.70	0.87	0.87	0.87	0.83	0.83	0.83	0.59	0.59	0.59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	133	0	0	53	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Minimum Split (s)		23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)		55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)		61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		51.0			51.0			31.0			31.0	
Actuated g/C Ratio		0.57			0.57			0.34			0.34	
v/c Ratio		0.20			0.14			0.10			0.04	
Control Delay		7.2			10.9			14.7			18.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.2			10.9			14.7			18.3	
LOS		A			B			B			B	
Approach Delay		7.2			10.9			14.7			18.3	
Approach LOS		A			B			B			B	

Lanes, Volumes, Timings
 3: Carroll Street/Centennial Plaza & Henry Street

10/08/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		35			32			12			8	
Queue Length 95th (ft)		44			61			34			15	
Internal Link Dist (ft)		329			793			239			244	
Turn Bay Length (ft)												
Base Capacity (vph)		1033			983			530			606	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.14			0.10			0.04	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.20
 Intersection Signal Delay: 10.0
 Intersection Capacity Utilization 29.2%
 Analysis Period (min) 15

















Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 3: Carroll Street/Centennial Plaza & Henry Street

 Ø2 (R) 35 s	 Ø4 55 s
 Ø6 (R) 35 s	 Ø8 55 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Future Volume (vph)	20	102	35	20	65	34	29	99	32	12	75	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1778	0	0	1762	0	0	1766	0	0	1799	0
Flt Permitted		0.958			0.939			0.935			0.964	
Satd. Flow (perm)	0	1706	0	0	1655	0	0	1660	0	0	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			29			18			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	18		27	27		18	12		43	43		12
Confl. Bikes (#/hr)			3			1			6			2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.72	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	0	0	141	0	0	178	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.24			0.19			0.24			0.20	
Control Delay		14.8			8.5			14.9			14.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			8.5			14.9			14.2	
LOS		B			A			B			B	
Approach Delay		14.8			8.5			14.9			14.2	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		56			18			54			44	
Queue Length 95th (ft)		92			31			98			63	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		769			751			747			778	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.19			0.24			0.20	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.24
 Intersection Signal Delay: 13.3
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A









Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R) 45 s	 Ø4 45 s
 Ø6 (R) 45 s	 Ø8 45 s

Lanes, Volumes, Timings

5: Chenango Street & Centennial Plaza

10/08/2021



















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	148	5	10	109
Future Volume (vph)	0	0	148	5	10	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	1872	0	0	1874
Flt Permitted						0.996
Satd. Flow (perm)	0	0	1872	0	0	1874
Link Speed (mph)	30		30			30
Link Distance (ft)	324		327			570
Travel Time (s)	7.4		7.4			13.0
Peak Hour Factor	0.90	1.00	0.90	0.90	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	170	0	0	165
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 17.4% ICU Level of Service A
 Analysis Period (min) 15













Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Future Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1787	1788	0	1736	1729	0	0	1817	0	1787	1760	0
Flt Permitted	0.676			0.675				0.941		0.656		
Satd. Flow (perm)	1265	1788	0	1230	1729	0	0	1721	0	1212	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			39			13			41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	6		3	3		6	14		19	19		14
Confl. Bikes (#/hr)			1						4			4
Peak Hour Factor	0.93	0.93	0.93	0.64	0.64	0.64	0.84	0.84	0.84	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	128	0	11	127	0	0	176	0	13	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	
Control Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
LOS	B	A		B	A			B		B	B	
Approach Delay		9.9			8.9			15.1			11.1	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	16	23		3	22			49		4	24	
Queue Length 95th (ft)	38	51		8	32			84		14	57	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	590	854		574	827			696		484	728	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Chenango Street & Lewis Street

 Ø2 (R)	 Ø4
35 s	40 s
 Ø6 (R)	 Ø8
35 s	40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/08/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	11	16	16	11	7
Future Volume (vph)	10	11	16	16	11	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1707	0	0	1836	1652	0
Flt Permitted	0.977			0.976		
Satd. Flow (perm)	1707	0	0	1836	1652	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			6			6
Peak Hour Factor	0.59	0.59	0.57	0.57	0.69	0.69
Heavy Vehicles (%)	1%	1%	1%	1%	9%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	56	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.4% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	10	11	16	16	11	7
Future Vol, veh/h	10	11	16	16	11	7
Conflicting Peds, #/hr	0	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	57	57	69	69
Heavy Vehicles, %	1	1	1	1	9	9
Mvmt Flow	17	19	28	28	16	10


















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	111	27	32	0	0
Stage 1	27	-	-	-	-
Stage 2	84	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	888	1051	1587	-	-
Stage 1	998	-	-	-	-
Stage 2	942	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	861	1045	1578	-	-
Mov Cap-2 Maneuver	861	-	-	-	-
Stage 1	974	-	-	-	-
Stage 2	936	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	948	-	-
HCM Lane V/C Ratio	0.018	-	0.038	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	7	16	1	16	6	2	54	11	3	25	0
Future Volume (vph)	13	7	16	1	16	6	2	54	11	3	25	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1701	0	0	1812	0	0	1672	0	1787	1881	0
Flt Permitted		0.982			0.998			0.999		0.950		
Satd. Flow (perm)	0	1701	0	0	1812	0	0	1672	0	1787	1881	0
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		924			851			281		295		
Travel Time (s)		21.0			19.3			6.4		6.7		
Confl. Peds. (#/hr)			7	7			2		7	7		2
Confl. Bikes (#/hr)						1			4			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.73	0.73	0.73
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	11%	11%	11%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	27	0	0	80	0	4	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 22.7%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	13	7	16	1	16	6	2	54	11	3	25	0
Future Vol, veh/h	13	7	16	1	16	6	2	54	11	3	25	0
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	83	83	83	73	73	73
Heavy Vehicles, %	3	3	3	1	1	1	11	11	11	1	1	1
Mvmt Flow	15	8	19	1	19	7	2	65	13	4	34	0

















Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	133	133	43	146	127	79	36	0	0	85	0	0
Stage 1	44	44	-	83	83	-	-	-	-	-	-	-
Stage 2	89	89	-	63	44	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.11	6.51	6.21	4.21	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.509	4.009	3.309	2.299	-	-	2.209	-	-
Pot Cap-1 Maneuver	837	756	1025	825	765	984	1519	-	-	1518	-	0
Stage 1	968	856	-	928	828	-	-	-	-	-	-	0
Stage 2	916	819	-	950	860	-	-	-	-	-	-	0
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	812	746	1016	790	755	977	1516	-	-	1508	-	-
Mov Cap-2 Maneuver	812	746	-	790	755	-	-	-	-	-	-	-
Stage 1	965	852	-	921	821	-	-	-	-	-	-	-
Stage 2	888	812	-	915	856	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.3		9.6		0.2		0.8	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1516	-	-	875	804	1508	-
HCM Lane V/C Ratio	0.002	-	-	0.048	0.033	0.003	-
HCM Control Delay (s)	7.4	-	-	9.3	9.6	7.4	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	4	9	3	9	6	2	51	17	15	53	2
Future Volume (vph)	31	4	9	3	9	6	2	51	17	15	53	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1766	0	0	1780	0	0	1817	0	0	1855	0
Flt Permitted		0.966			0.992			0.999			0.989	
Satd. Flow (perm)	0	1766	0	0	1780	0	0	1817	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	2		19	19		2	40		22	22		40
Confl. Bikes (#/hr)			2			3			4			2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	32	0	0	111	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 29.9%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/08/2021

Intersection










Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	31	4	9	3	9	6	2	51	17	15	53	2
Future Vol, veh/h	31	4	9	3	9	6	2	51	17	15	53	2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	43	6	13	5	16	11	3	81	27	17	59	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	7.7			7.4			7.6			7.7		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	70%	17%	21%
Vol Thru, %	73%	9%	50%	76%
Vol Right, %	24%	20%	33%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	44	18	70
LT Vol	2	31	3	15
Through Vol	51	4	9	53
RT Vol	17	9	6	2
Lane Flow Rate	111	61	32	78
Geometry Grp	1	1	1	1
Degree of Util (X)	0.123	0.073	0.037	0.091
Departure Headway (Hd)	3.996	4.285	4.23	4.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	886	823	852	845
Service Time	2.071	2.382	2.23	2.265
HCM Lane V/C Ratio	0.125	0.074	0.038	0.092
HCM Control Delay	7.6	7.7	7.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.1	0.3

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

10/08/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	8	36	26	18	53
Future Volume (vph)	5	8	36	26	18	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1692	0	1595	0	0	1736
Flt Permitted	0.981					0.987
Satd. Flow (perm)	1692	0	1595	0	0	1736
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	20			143	3	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.25	0.64	0.87	0.87
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	185	0	0	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 23.3% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
10: Carroll Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	5	8	36	26	18	53
Future Vol, veh/h	5	8	36	26	18	53
Conflicting Peds, #/hr	20	0	0	143	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	25	64	87	87
Heavy Vehicles, %	1	1	4	4	8	8
Mvmt Flow	10	16	144	41	21	61

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	431	308	0	0	328
Stage 1	308	-	-	-	-
Stage 2	123	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272
Pot Cap-1 Maneuver	583	734	-	-	1199
Stage 1	748	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	484	634	-	-	1036
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	646	-	-	-	-
Stage 2	869	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.2
HCM LOS	B		



















Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1036
HCM Lane V/C Ratio	-	-	0.046	0.02
HCM Control Delay (s)	-	-	11.7	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

2

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street













10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	87	17	11	137	70	34	27	12	0	0	1
Future Volume (vph)	85	87	17	11	137	70	34	27	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1779	0	0	1781	0	1687	1685	0	1881	1564	0
Flt Permitted		0.785			0.985		0.757					
Satd. Flow (perm)	0	1426	0	0	1760	0	1342	1685	0	1881	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			63			14			735	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	3		3	3		3	1					1
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.83	0.83	0.83	0.50	0.50	0.50
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	250	0	41	47	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0			17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30			0.30	
v/c Ratio		0.26			0.26		0.10	0.09			0.00	
Control Delay		8.0			6.3		15.4	11.9			0.0	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		8.0			6.3		15.4	11.9			0.0	
LOS		A			A		B	B			A	
Approach Delay		8.0			6.3			13.5				

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B				
Queue Length 50th (ft)		31			31		10	8			0	
Queue Length 95th (ft)		63			60		27	25			0	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135					
Base Capacity (vph)		756			956		400	512			982	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.26			0.26		0.10	0.09			0.00	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 8.1





Intersection Capacity Utilization 65.7%

Analysis Period (min) 15

Intersection LOS: A

















ICU Level of Service C

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

 Ø2 (R)	 Ø4
22 s	35 s
 Ø6 (R)	 Ø8
22 s	35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street













10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	106	16	26	87	59	16	57	15	68	28	10
Future Volume (vph)	8	106	16	26	87	59	16	57	15	68	28	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1822	0	0	1729	0	0	1811	0	0	1724	0
Flt Permitted		0.981			0.941			0.942			0.764	
Satd. Flow (perm)	0	1792	0	0	1624	0	0	1713	0	0	1352	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			65			21			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	5		67	67		5	23		6	6		23
Confl. Bikes (#/hr)			2			3			3			1
Peak Hour Factor	0.65	0.65	0.65	0.91	0.91	0.91	0.72	0.72	0.72	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	190	0	0	122	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.25			0.25			0.21			0.24	
Control Delay		6.6			6.3			10.4			11.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.6			6.3			10.4			11.8	
LOS		A			A			B			B	
Approach Delay		6.6			6.3			10.4			11.8	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		40			18			18			18	
Queue Length 95th (ft)		47			47			34			46	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		808			757			585			457	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.25			0.21			0.24	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 8.2
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

 Ø2 (R)	 Ø4
20 s	25 s
 Ø6 (R)	 Ø8
20 s	25 s

Lanes, Volumes, Timings 3: Carroll Street & Henry Street

10/08/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	
Traffic Volume (vph)	113	47	24	91	27	17
Future Volume (vph)	113	47	24	91	27	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	115		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Satd. Flow (prot)	1788	0	0	1862	1715	0
Flt Permitted				0.922	0.970	
Satd. Flow (perm)	1788	0	0	1731	1682	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	38				20	
Link Speed (mph)	30			30	30	
Link Distance (ft)	409			873	319	
Travel Time (s)	9.3			19.8	7.3	
Confl. Peds. (#/hr)		16	16		21	4
Peak Hour Factor	0.70	0.70	0.87	0.87	0.83	0.83
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	0	0	133	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	23.0		23.0	23.0	23.0	
Total Split (s)	55.0		55.0	55.0	35.0	
Total Split (%)	61.1%		61.1%	61.1%	38.9%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effect Green (s)	51.0			51.0	31.0	
Actuated g/C Ratio	0.57			0.57	0.34	
v/c Ratio	0.22			0.14	0.09	
Control Delay	7.9			10.9	14.5	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.9			10.9	14.5	
LOS	A			B	B	
Approach Delay	7.9			10.9	14.5	
Approach LOS	A			B	B	

Lanes, Volumes, Timings

3: Carroll Street & Henry Street

10/08/2021




	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	43			32	12	
Queue Length 95th (ft)	53			61	34	
Internal Link Dist (ft)	329			793	239	
Turn Bay Length (ft)						
Base Capacity (vph)	1029			980	603	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.22			0.14	0.09	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.22
 Intersection Signal Delay: 9.7
 Intersection Capacity Utilization 29.6%
 Analysis Period (min) 15

















Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 3: Carroll Street & Henry Street

 Ø2 (R) 35 s	 Ø4 55 s
	 Ø8 55 s













Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	102	35	20	65	34	29	99	37	21	75	23
Future Volume (vph)	20	102	35	20	65	34	29	99	37	21	75	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1778	0	0	1762	0	0	1756	0	0	1798	0
Flt Permitted		0.958			0.939			0.935			0.934	
Satd. Flow (perm)	0	1706	0	0	1655	0	0	1650	0	0	1672	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			29			21			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	18		27	27		18	12		43	43		12
Confl. Bikes (#/hr)			3			1			6			2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.72	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	0	0	141	0	0	183	0	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.24			0.19			0.25			0.22	
Control Delay		14.8			8.3			14.8			14.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			8.3			14.8			14.7	
LOS		B			A			B			B	
Approach Delay		14.8			8.3			14.8			14.7	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		56			17			55			50	
Queue Length 95th (ft)		92			30			100			69	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		769			751			745			752	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.19			0.25			0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 13.4
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15




















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R)	 Ø4
45 s	45 s
 Ø6 (R)	 Ø8
45 s	45 s

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Future Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1787	1788	0	1736	1729	0	0	1817	0	1787	1760	0
Flt Permitted	0.676			0.675				0.941		0.656		
Satd. Flow (perm)	1265	1788	0	1230	1729	0	0	1721	0	1212	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			39			13			41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	6		3	3		6	14		19	19		14
Confl. Bikes (#/hr)			1						4			4
Peak Hour Factor	0.93	0.93	0.93	0.64	0.64	0.64	0.84	0.84	0.84	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	128	0	11	127	0	0	176	0	13	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	
Control Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
LOS	B	A		B	A			B		B	B	
Approach Delay		9.9			8.9			15.1			11.1	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	16	23		3	22			49		4	24	
Queue Length 95th (ft)	38	51		8	32			84		14	57	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	590	854		574	827			696		484	728	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/08/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	11	16	16	11	7
Future Volume (vph)	10	11	16	16	11	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1707	0	0	1836	1652	0
Flt Permitted	0.977			0.976		
Satd. Flow (perm)	1707	0	0	1836	1652	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			6			6
Peak Hour Factor	0.59	0.59	0.57	0.57	0.69	0.69
Heavy Vehicles (%)	1%	1%	1%	1%	9%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	56	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.4% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	10	11	16	16	11	7
Future Vol, veh/h	10	11	16	16	11	7
Conflicting Peds, #/hr	0	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	57	57	69	69
Heavy Vehicles, %	1	1	1	1	9	9
Mvmt Flow	17	19	28	28	16	10

Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	111	27	32	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	888	1051	1587	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	861	1045	1578	-	-	-
Mov Cap-2 Maneuver	861	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	EB	NB	SB
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















HCM Control Delay, s	8.9	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	1578	-	948	-	-
HCM Lane V/C Ratio	0.018	-	0.038	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	7	16	1	16	6	2	54	11	3	25	0
Future Volume (vph)	13	7	16	1	16	6	2	54	11	3	25	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1701	0	0	1812	0	0	1672	0	1787	1881	0
Flt Permitted		0.982			0.998			0.999		0.950		
Satd. Flow (perm)	0	1701	0	0	1812	0	0	1672	0	1787	1881	0
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		924			851			281		295		
Travel Time (s)		21.0			19.3			6.4		6.7		
Confl. Peds. (#/hr)			7	7			2		7	7		2
Confl. Bikes (#/hr)						1			4			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.73	0.73	0.73
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	11%	11%	11%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	27	0	0	80	0	4	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 22.7%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/08/2021

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	13	7	16	1	16	6	2	54	11	3	25	0
Future Vol, veh/h	13	7	16	1	16	6	2	54	11	3	25	0
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	83	83	83	73	73	73
Heavy Vehicles, %	3	3	3	1	1	1	11	11	11	1	1	1
Mvmt Flow	15	8	19	1	19	7	2	65	13	4	34	0

















Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	133	133	43	146	127	79	36	0	0	85	0	0
Stage 1	44	44	-	83	83	-	-	-	-	-	-	-
Stage 2	89	89	-	63	44	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.11	6.51	6.21	4.21	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.509	4.009	3.309	2.299	-	-	2.209	-	-
Pot Cap-1 Maneuver	837	756	1025	825	765	984	1519	-	-	1518	-	0
Stage 1	968	856	-	928	828	-	-	-	-	-	-	0
Stage 2	916	819	-	950	860	-	-	-	-	-	-	0
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	812	746	1016	790	755	977	1516	-	-	1508	-	-
Mov Cap-2 Maneuver	812	746	-	790	755	-	-	-	-	-	-	-
Stage 1	965	852	-	921	821	-	-	-	-	-	-	-
Stage 2	888	812	-	915	856	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB			
HCM Control Delay, s	9.3		9.6			0.2		0.8			
HCM LOS	A		A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1516	-	-	875	804	1508	-
HCM Lane V/C Ratio	0.002	-	-	0.048	0.033	0.003	-
HCM Control Delay (s)	7.4	-	-	9.3	9.6	7.4	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	4	9	3	9	6	2	51	17	15	53	2
Future Volume (vph)	31	4	9	3	9	6	2	51	17	15	53	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1766	0	0	1780	0	0	1817	0	0	1855	0
Flt Permitted		0.966			0.992			0.999			0.989	
Satd. Flow (perm)	0	1766	0	0	1780	0	0	1817	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	2		19	19		2	40		22	22		40
Confl. Bikes (#/hr)			2			3			4			2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	32	0	0	111	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 29.9%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/08/2021

Intersection










Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	31	4	9	3	9	6	2	51	17	15	53	2
Future Vol, veh/h	31	4	9	3	9	6	2	51	17	15	53	2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	43	6	13	5	16	11	3	81	27	17	59	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	7.7			7.4			7.6			7.7		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	70%	17%	21%
Vol Thru, %	73%	9%	50%	76%
Vol Right, %	24%	20%	33%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	44	18	70
LT Vol	2	31	3	15
Through Vol	51	4	9	53
RT Vol	17	9	6	2
Lane Flow Rate	111	61	32	78
Geometry Grp	1	1	1	1
Degree of Util (X)	0.123	0.073	0.037	0.091
Departure Headway (Hd)	3.996	4.285	4.23	4.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	886	823	852	845
Service Time	2.071	2.382	2.23	2.265
HCM Lane V/C Ratio	0.125	0.074	0.038	0.092
HCM Control Delay	7.6	7.7	7.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.1	0.3

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

10/08/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	8	36	26	18	53
Future Volume (vph)	5	8	36	26	18	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1692	0	1595	0	0	1736
Flt Permitted	0.981					0.987
Satd. Flow (perm)	1692	0	1595	0	0	1736
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	20			143	3	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.25	0.64	0.87	0.87
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	185	0	0	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 23.3% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 10: Carroll Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	5	8	36	26	18	53
Future Vol, veh/h	5	8	36	26	18	53
Conflicting Peds, #/hr	20	0	0	143	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	25	64	87	87
Heavy Vehicles, %	1	1	4	4	8	8
Mvmt Flow	10	16	144	41	21	61

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	431	308	0	0	328
Stage 1	308	-	-	-	-
Stage 2	123	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272
Pot Cap-1 Maneuver	583	734	-	-	1199
Stage 1	748	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	484	634	-	-	1036
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	646	-	-	-	-
Stage 2	869	-	-	-	-



















Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1036
HCM Lane V/C Ratio	-	-	0.046	0.02
HCM Control Delay (s)	-	-	11.7	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	108	0	70	0	112	59	0	1	0
Future Volume (vph)	0	0	0	108	0	70	0	112	59	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1845	0	0	1714	0	1776	1671	0	1881	1881	0
Flt Permitted					0.833							
Satd. Flow (perm)	0	1845	0	0	1468	0	1776	1671	0	1881	1881	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					80			47				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	3		3	3		3	1					1
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.83	0.83	0.83	0.50	0.50	0.50
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	204	0	0	206	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)					30.0			17.0			17.0	
Actuated g/C Ratio					0.53			0.30			0.30	
v/c Ratio					0.25			0.39			0.00	
Control Delay					5.4			14.7			14.0	
Queue Delay					0.0			0.0			0.0	
Total Delay					5.4			14.7			14.0	
LOS					A			B			B	
Approach Delay					5.4			14.7			14.0	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					A			B			B	
Queue Length 50th (ft)					20			42			1	
Queue Length 95th (ft)					46			80			2	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)												
Base Capacity (vph)					810			531			561	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.25			0.39			0.00	

Intersection Summary

Area Type: Other

Cycle Length: 57

Actuated Cycle Length: 57

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

Intersection Capacity Utilization 47.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s	Ø4 35 s
Ø6 (R) 22 s	Ø8 35 s

Lanes, Volumes, Timings 2: Fayette Street & Henry Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	82	0	0	0	63	116	0	0	96	10
Future Volume (vph)	8	0	82	0	0	0	63	116	0	0	96	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1500	0	0	1845	0	0	1849	0	0	1779	0
Flt Permitted		0.985						0.849				
Satd. Flow (perm)	0	1483	0	0	1845	0	0	1579	0	0	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		126									10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	5		67	67		5	23		6	6		23
Confl. Bikes (#/hr)			2			3			3			1
Peak Hour Factor	0.65	0.65	0.65	0.91	0.91	0.91	0.72	0.72	0.72	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	138	0	0	0	0	0	249	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA					Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0						15.0			15.0	
Actuated g/C Ratio		0.44						0.33			0.33	
v/c Ratio		0.19						0.47			0.18	
Control Delay		2.8						15.6			10.9	
Queue Delay		0.0						0.0			0.0	
Total Delay		2.8						15.6			10.9	
LOS		A						B			B	
Approach Delay		2.8						15.6			10.9	

Lanes, Volumes, Timings
 2: Fayette Street & Henry Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Approach LOS		A						B			B			
Queue Length 50th (ft)		0						49			18			
Queue Length 95th (ft)		0						74			44			
Internal Link Dist (ft)		793				518			213			298		
Turn Bay Length (ft)														
Base Capacity (vph)		729						526			599			
Starvation Cap Reductn		0						0			0			
Spillback Cap Reductn		0						0			0			
Storage Cap Reductn		0						0			0			
Reduced v/c Ratio		0.19						0.47			0.18			

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay: 11.0
 Intersection Capacity Utilization 41.3%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 2: Fayette Street & Henry Street

Ø2 (R) 20 s	Ø4 25 s
Ø6 (R) 20 s	Ø8 25 s

Lanes, Volumes, Timings
3: Carroll Street & Henry Street

10/08/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	73	47	24	51	27	17
Future Volume (vph)	73	47	24	51	27	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	115		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Satd. Flow (prot)	1758	0	0	1851	1715	0
Flt Permitted				0.901	0.970	
Satd. Flow (perm)	1758	0	0	1689	1682	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	59				20	
Link Speed (mph)	30			30	30	
Link Distance (ft)	409			873	319	
Travel Time (s)	9.3			19.8	7.3	
Confl. Peds. (#/hr)		16	16		21	4
Peak Hour Factor	0.70	0.70	0.87	0.87	0.83	0.83
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	0	87	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	23.0		23.0	23.0	23.0	
Total Split (s)	55.0		55.0	55.0	35.0	
Total Split (%)	61.1%		61.1%	61.1%	38.9%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effect Green (s)	51.0			51.0	31.0	
Actuated g/C Ratio	0.57			0.57	0.34	
v/c Ratio	0.17			0.09	0.09	
Control Delay	7.7			6.1	14.5	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.7			6.1	14.5	
LOS	A			A	B	
Approach Delay	7.7			6.1	14.5	
Approach LOS	A			A	B	

Lanes, Volumes, Timings
 3: Carroll Street & Henry Street

10/08/2021




Lane Group	→ EBT	↘ EBR	↙ WBL	← WBT	↖ NBL	↗ NBR
Queue Length 50th (ft)	33			25	12	
Queue Length 95th (ft)	45			48	34	
Internal Link Dist (ft)	329			793	239	
Turn Bay Length (ft)						
Base Capacity (vph)	1021			957	603	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.17			0.09	0.09	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.17
 Intersection Signal Delay: 8.4
 Intersection Capacity Utilization 21.5%
 Analysis Period (min) 15

















Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 3: Carroll Street & Henry Street

 Ø2 (R) 35 s	 Ø4 55 s
 Ø8 55 s	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	62	35	20	24	34	29	94	37	21	75	23
Future Volume (vph)	20	62	35	20	24	34	29	94	37	21	75	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1742	0	0	1700	0	0	1752	0	0	1798	0
Flt Permitted		0.952			0.922			0.933			0.935	
Satd. Flow (perm)	0	1661	0	0	1567	0	0	1643	0	0	1673	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			40			22			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	18		27	27		18	12		43	43		12
Confl. Bikes (#/hr)			3			1			6			2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.72	0.72	0.72
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	93	0	0	177	0	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.19			0.13			0.24			0.22	
Control Delay		12.4			6.7			14.5			14.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.4			6.7			14.5			14.7	
LOS		B			A			B			B	
Approach Delay		12.4			6.7			14.5			14.7	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

10/08/2021





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		36			1			52			50	
Queue Length 95th (ft)		66			24			96			69	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		755			718			742			753	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.19			0.13			0.24			0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.24
 Intersection Signal Delay: 12.8
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15




















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R) 45 s	 Ø4 45 s
 Ø6 (R) 45 s	 Ø8 45 s

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Future Volume (vph)	61	85	34	7	56	25	26	101	21	12	78	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1787	1788	0	1736	1729	0	0	1817	0	1787	1760	0
Flt Permitted	0.676			0.675				0.941		0.656		
Satd. Flow (perm)	1265	1788	0	1230	1729	0	0	1721	0	1212	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			39			13			41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	6		3	3		6	14		19	19		14
Confl. Bikes (#/hr)			1						4			4
Peak Hour Factor	0.93	0.93	0.93	0.64	0.64	0.64	0.84	0.84	0.84	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	128	0	11	127	0	0	176	0	13	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	
Control Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	8.8		11.0	8.7			15.1		14.0	10.7	
LOS	B	A		B	A			B		B	B	
Approach Delay		9.9			8.9			15.1			11.1	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

10/08/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	16	23		3	22			49		4	24	
Queue Length 95th (ft)	38	51		8	32			84		14	57	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	590	854		574	827			696		484	728	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.15		0.02	0.15			0.25		0.03	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15










Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

10/08/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	11	16	16	11	7
Future Volume (vph)	10	11	16	16	11	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1707	0	0	1836	1652	0
Flt Permitted	0.977			0.976		
Satd. Flow (perm)	1707	0	0	1836	1652	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			6			6
Peak Hour Factor	0.59	0.59	0.57	0.57	0.69	0.69
Heavy Vehicles (%)	1%	1%	1%	1%	9%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	56	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.4% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	10	11	16	16	11	7
Future Vol, veh/h	10	11	16	16	11	7
Conflicting Peds, #/hr	0	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	57	57	69	69
Heavy Vehicles, %	1	1	1	1	9	9
Mvmt Flow	17	19	28	28	16	10


















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	111	27	32	0	0
Stage 1	27	-	-	-	-
Stage 2	84	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	888	1051	1587	-	-
Stage 1	998	-	-	-	-
Stage 2	942	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	861	1045	1578	-	-
Mov Cap-2 Maneuver	861	-	-	-	-
Stage 1	974	-	-	-	-
Stage 2	936	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	948	-	-
HCM Lane V/C Ratio	0.018	-	0.038	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	7	33	1	16	6	36	20	11	3	42	98
Future Volume (vph)	145	7	33	1	16	6	36	20	11	3	42	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1732	0	0	1812	0	0	1631	0	1787	1684	0
Flt Permitted		0.962			0.998			0.974		0.950		
Satd. Flow (perm)	0	1732	0	0	1812	0	0	1631	0	1787	1684	0
Link Speed (mph)		30			30			30		30		30
Link Distance (ft)		924			851			281		295		295
Travel Time (s)		21.0			19.3			6.4		6.7		6.7
Confl. Peds. (#/hr)			7	7			2		7	7		2
Confl. Bikes (#/hr)						1			4			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.73	0.73	0.73
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	11%	11%	11%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	215	0	0	27	0	0	80	0	4	192	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 41.7%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	145	7	33	1	16	6	36	20	11	3	42	98
Future Vol, veh/h	145	7	33	1	16	6	36	20	11	3	42	98
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	83	83	83	73	73	73
Heavy Vehicles, %	3	3	3	1	1	1	11	11	11	1	1	1
Mvmt Flow	169	8	38	1	19	7	43	24	13	4	58	134

















Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	265	265	134	287	326	38	194	0	0	44	0	0
Stage 1	135	135	-	124	124	-	-	-	-	-	-	-
Stage 2	130	130	-	163	202	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.11	6.51	6.21	4.21	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.509	4.009	3.309	2.299	-	-	2.209	-	-
Pot Cap-1 Maneuver	686	639	912	667	594	1037	1327	-	-	1571	-	-
Stage 1	866	783	-	882	795	-	-	-	-	-	-	-
Stage 2	871	787	-	841	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	645	610	904	607	567	1030	1324	-	-	1561	-	-
Mov Cap-2 Maneuver	645	610	-	607	567	-	-	-	-	-	-	-
Stage 1	836	779	-	848	763	-	-	-	-	-	-	-
Stage 2	816	756	-	790	732	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	12.8		10.8			4.2			0.2		
HCM LOS	B		B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	678	644	1561	-	-
HCM Lane V/C Ratio	0.033	-	-	0.317	0.042	0.003	-	-
HCM Control Delay (s)	7.8	-	-	12.8	10.8	7.3	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.1	0	-	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

10/08/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	4	9	29	9	112	2	36	32	164	27	2
Future Volume (vph)	31	4	9	29	9	112	2	36	32	164	27	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1766	0	0	1674	0	0	1763	0	0	1802	0
Flt Permitted		0.966			0.990			0.999			0.959	
Satd. Flow (perm)	0	1766	0	0	1674	0	0	1763	0	0	1802	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	2		19	19		2	40		22	22		40
Confl. Bikes (#/hr)			2			3			4			2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	263	0	0	111	0	0	214	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.2%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th AWSC
 9: Fayette Street & Pine Street

10/08/2021

Intersection










Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	31	4	9	29	9	112	2	36	32	164	27	2
Future Vol, veh/h	31	4	9	29	9	112	2	36	32	164	27	2
Peak Hour Factor	0.72	0.72	0.72	0.57	0.57	0.57	0.63	0.63	0.63	0.90	0.90	0.90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	43	6	13	51	16	196	3	57	51	182	30	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.6			9.5			8.5			10.1		
HCM LOS	A			A			A			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	70%	19%	85%
Vol Thru, %	51%	9%	6%	14%
Vol Right, %	46%	20%	75%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	44	150	193
LT Vol	2	31	29	164
Through Vol	36	4	9	27
RT Vol	32	9	112	2
Lane Flow Rate	111	61	263	214
Geometry Grp	1	1	1	1
Degree of Util (X)	0.144	0.086	0.32	0.295
Departure Headway (Hd)	4.664	5.043	4.38	4.95
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	706	818	723
Service Time	2.728	3.107	2.427	3.008
HCM Lane V/C Ratio	0.145	0.086	0.322	0.296
HCM Control Delay	8.5	8.6	9.5	10.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.5	0.3	1.4	1.2

Lanes, Volumes, Timings
10: Carroll Street & Pine Street

10/08/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	8	36	26	18	53
Future Volume (vph)	5	8	36	26	18	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1692	0	1595	0	0	1736
Flt Permitted	0.981					0.987
Satd. Flow (perm)	1692	0	1595	0	0	1736
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	20			143	3	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.25	0.64	0.87	0.87
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	185	0	0	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
 10: Carroll Street & Pine Street

10/08/2021

Intersection

Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	5	8	36	26	18	53
Future Vol, veh/h	5	8	36	26	18	53
Conflicting Peds, #/hr	20	0	0	143	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	25	64	87	87
Heavy Vehicles, %	1	1	4	4	8	8
Mvmt Flow	10	16	144	41	21	61

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	431	308	0	0	328
Stage 1	308	-	-	-	-
Stage 2	123	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272
Pot Cap-1 Maneuver	583	734	-	-	1199
Stage 1	748	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	484	634	-	-	1036
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	646	-	-	-	-
Stage 2	869	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1036
HCM Lane V/C Ratio	-	-	0.046	0.02
HCM Control Delay (s)	-	-	11.7	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1



T Consulting



1396 White Bridge Road
Chittenango, NY 13037

Tel: (315) 391-5110 Fax: (315) 687-6267

November 18, 2021

Whitham Planning & Design, PLLC
142 East State Street, Suite B
Ithaca, NY 14850

Attn: Ms. Michele Palmer, PLA, ASLA, LEED GA

**Re: Traffic Analysis – Stadium District Master Plan Study
Binghamton, NY**

Dear Ms. Palmer:

I understand that there have been some concerns raised by the City of Binghamton with regards to future traffic operations along Henry Street with potential redevelopment and growth in the area. Specifically, the concern is whether Henry Street, if reduced to one lane in each direction, can handle revitalization efforts in the area that may result in increased traffic volumes.

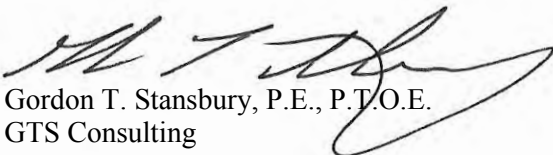
We completed a quick sensitivity analysis using the weekday evening peak hour models with Henry Street reduced to a two lane roadway (one lane per direction), with Pine Street converted to two way operations, and with the Centennial Plaza connection eliminated. Three iterative models were run with a universal growth factor applied to all traffic volumes in the study area at factors of 2 time the existing volumes, 2.5 times the existing volumes, and 3 times the existing volumes. Other than some minor signal timing adjustments to balance delays, there were no geometric improvements made in any of the sensitivity models.

The results of the sensitivity analysis shows that all of the traffic volumes in the study area can be increased by a factor of 2.5 times while still maintaining acceptable Level of Service D or better at all study area intersections with only minor timing adjustments. At a 3 times growth factor, certain traffic movements at the Henry Street intersections with Fayette Street, Carroll Street and Chenango Street will begin to experience longer delays with Levels of Service E or F. Long delays will also begin to form at the Chenango Street/Lewis Street intersection at 3 times growth. The detailed Level of Service summary and capacity analysis printouts have been attached.

This sensitivity analysis supports the findings of the traffic analysis previously completed, that traffic capacity is not a critical path issue when evaluating complete streets approaches to the corridor. With low to moderate existing volumes, there is excess capacity to support over double the existing traffic volumes even with the reduction of Henry Street to one lane in each direction.

If you have any questions or need additional information, please call.

Sincerely,



Gordon T. Stansbury, P.E., P.T.O.E.
GTS Consulting

Attachments – LOS Summary
Synchro Capacity Printouts

**Stadium District Master Plan Study – Traffic Analysis – Binghamton, NY
Intersection Level of Service Summary – Evening Peak Hour**

Typical Evening Peak Hour with Lane Reduction, 2-Way Pine, Centennial Closed – Sensitivity Analysis

	1X Growth	2X Growth	2.5X Growth	3X Growth
Henry Street @ Chapman Street / Stadium Parking	A(9)	B(13)	B(20)	D(41)
EB Left/Through/Right	A(8)	B(13)	B(20)	D(42)
WB Left/Through/Right	A(8)	B(13)	C(21)	D(46)
NB Left	B(16)	B(17)	B(18)	B(19)
NB Through/Right	B(12)	B(11)	B(11)	B(11)
SB Left	B(14)	B(15)	B(15)	B(14)
SB Through/Right	A(9)	A(8)	A(8)	A(7)
Henry Street @ Fayette Street	A(9)	B(16)	C(31)	D(54)
EB Left/Through/Right	A(5)	A(10)	B(16)	B(18)
WB Left/Through/Right	A(8)	B(14)	D(54)	E(74)
NB Left/Through/Right	A(10)	B(11)	A(9)	B(13)
SB Left/Through/Right	B(13)	C(23)	C(24)	F(82)
Henry Street @ Carroll Street / Centennial Plaza	B(11)	B(15)	B(18)	D(36)
EB Through/Right	A(5)	A(7)	A(8)	A(7)
WB Left/Through	B(13)	B(18)	C(21)	D(54)
NB Left/Right	B(18)	C(24)	C(27)	D(54)
Henry Street @ Chenango Street	B(16)	C(24)	D(36)	F(91)
EB Left/Through/Right	B(17)	C(25)	C(26)	E(69)
WB Left/Through/Right	B(16)	C(26)	C(28)	F(89)
NB Left/Through/Right	B(16)	C(22)	D(51)	F(116)
SB Left/Through/Right	B(14)	C(21)	D(43)	F(91)
Chenango Street @ Lewis Street	B(13)	C(21)	C(26)	E(64)
EB Left	B(13)	B(16)	D(38)	F(137)
EB Through/Right	A(10)	B(14)	C(24)	D(38)
WB Left	B(11)	B(12)	B(18)	C(29)
WB Through/Right	A(8)	A(10)	B(16)	C(20)
NB Left/Through/Right	B(17)	D(37)	D(38)	F(127)
SB Left	B(14)	B(16)	B(12)	B(12)
SB Through/Right	B(14)	B(19)	B(15)	B(15)
Pine Street @ Liberty Street				
EB Left/Right	a(9)	a(9)	a(10)	a(10)
NB (Left)/Through	a(5)	a(5)	a(5)	a(5)
SB Through/(Right)	a(0)	a(0)	a(0)	a(0)
Pine Street @ Chapman Street				
EB Left/Through/Right	a(9)	b(11)	b(11)	b(12)
WB Left/Through/Right	b(11)	b(11)	b(13)	b(14)
NB (Left)/Through/Right	a(1)	a(1)	a(1)	a(1)
SB Left	a(8)	a(8)	a(8)	a(8)
SB Through/(Right)	a(1)	a(1)	a(1)	a(1)
Pine Street @ Fayette Street				
EB Left/Through/Right	a(8)	a(9)	b(11)	b(13)
WB Left/Through/Right	a(8)	a(9)	a(10)	b(11)
NB (Left)/Through/Right	a(8)	a(9)	a(10)	b(11)
SB Left/Through/(Right)	a(8)	b(11)	b(12)	c(16)
Pine Street @ Carroll Street				
WB Left/Right	a(10)	b(11)	b(13)	b(15)
NB Through/Right	a(0)	a(0)	a(0)	a(0)
SB Left/Through	a(1)	a(1)	a(1)	a(1)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro

a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Future Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1760	0	0	1802	0	1703	1647	0	1687	1501	0
Flt Permitted		0.910			0.922		0.739			0.743		
Satd. Flow (perm)	0	1609	0	0	1670	0	1312	1647	0	1306	1501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			17			10			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	523	0	0	564	0	96	22	0	4	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30		0.30	0.30	
v/c Ratio		0.61			0.64		0.25	0.04		0.01	0.06	
Control Delay		13.1			13.4		17.3	11.2		14.5	7.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		13.1			13.4		17.3	11.2		14.5	7.9	
LOS		B			B		B	B		B	A	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.1			13.4			16.1			8.8	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		110			120		24	3		1	1	
Queue Length 95th (ft)		180			146		50	14		4	6	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135			100		
Base Capacity (vph)		852			887		391	498		389	464	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.61			0.64		0.25	0.04		0.01	0.06	

Intersection Summary

Area Type: Other
 Cycle Length: 57
 Actuated Cycle Length: 57
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 13.4
 Intersection Capacity Utilization 55.2%
 Analysis Period (min) 15

















Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s	Ø4 35 s
Ø6 (R) 22 s	Ø8 35 s

Lanes, Volumes, Timings
 2: Fayette Street & Henry Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Future Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1794	0	0	1736	0	0	1749	0	0	1689	0
Flt Permitted		0.981			0.968			0.855			0.775	
Satd. Flow (perm)	0	1763	0	0	1685	0	0	1516	0	0	1340	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			43			35			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	344	0	0	494	0	0	180	0	0	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0			15.0			15.0	
Actuated g/C Ratio		0.44			0.44			0.33			0.33	
v/c Ratio		0.43			0.64			0.34			0.75	
Control Delay		9.8			13.5			11.3			27.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.8			13.5			11.3			27.0	
LOS		A			B			B			C	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.8			13.5			11.3			27.0	
Approach LOS		A			B			B			C	
Queue Length 50th (ft)		57			82			27			73	
Queue Length 95th (ft)		106			145			56			#145	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		791			772			528			454	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.43			0.64			0.34			0.75	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 15.7
 Intersection Capacity Utilization 62.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B










95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Fayette Street & Henry Street

Ø2 (R) 20 s	Ø4 25 s
Ø6 (R) 20 s	Ø8 25 s

Lanes, Volumes, Timings
3: Carroll Street & Henry Street

11/18/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	124	68	28	157	71	31
Future Volume (vph)	124	68	28	157	71	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	115		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Satd. Flow (prot)	1733	0	0	1868	1629	0
Flt Permitted				0.890	0.966	
Satd. Flow (perm)	1733	0	0	1673	1591	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	51				27	
Link Speed (mph)	30			30	30	
Link Distance (ft)	409			873	319	
Travel Time (s)	9.3			19.8	7.3	
Confl. Peds. (#/hr)		14	14		23	7
Confl. Bikes (#/hr)		8				2
Peak Hour Factor	0.92	0.92	0.87	0.87	0.76	0.76
Growth Factor	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	3%	3%	1%	1%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	418	0	0	425	269	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	55.0		55.0	55.0	35.0	
Total Split (%)	61.1%		61.1%	61.1%	38.9%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	51.0			51.0	31.0	
Actuated g/C Ratio	0.57			0.57	0.34	
v/c Ratio	0.42			0.45	0.47	
Control Delay	6.9			17.7	23.8	
Queue Delay	0.3			0.2	0.0	
Total Delay	7.2			17.9	23.8	
LOS	A			B	C	

Lanes, Volumes, Timings
 3: Carroll Street & Henry Street

11/18/2021

Lane Group	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	7.2			17.9	23.8	
Approach LOS	A			B	C	
Queue Length 50th (ft)	65			123	105	
Queue Length 95th (ft)	103			227	141	
Internal Link Dist (ft)	329			793	239	
Turn Bay Length (ft)						
Base Capacity (vph)	1004			948	578	
Starvation Cap Reductn	186			0	0	
Spillback Cap Reductn	0			112	1	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.51			0.51	0.47	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 45
 Control Type: Pretimed
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay: 15.3
 Intersection Capacity Utilization 63.3%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Carroll Street & Henry Street

↖ Ø2 (R) 35 s	→ Ø4 55 s
	↙ Ø8 55 s













Lanes, Volumes, Timings
4: Chenango Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Future Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1823	0	0	1800	0	0	1816	0	0	1760	0
Flt Permitted		0.827			0.912			0.854			0.874	
Satd. Flow (perm)	0	1519	0	0	1647	0	0	1562	0	0	1550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			15			12			31	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	0	0	563	0	0	403	0	0	396	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
v/c Ratio		0.65			0.76			0.58			0.56	
Control Delay		24.6			25.0			22.1			20.7	
Queue Delay		0.0			0.9			0.0			0.0	
Total Delay		24.6			26.0			22.1			20.7	
LOS		C			C			C			C	

Lanes, Volumes, Timings
 4: Chenango Street & Henry Street

11/18/2021

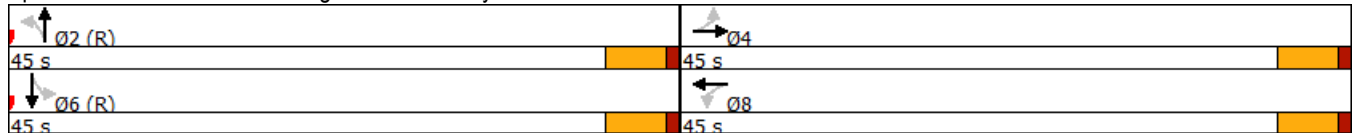
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		24.6			26.0			22.1			20.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		186			319			161			148	
Queue Length 95th (ft)		272			381			254			226	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		680			740			700			706	
Starvation Cap Reductn		0			45			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.65			0.81			0.58			0.56	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 50
 Control Type: Pretimed
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 23.6
 Intersection Capacity Utilization 67.0%
 Analysis Period (min) 15




















Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 4: Chenango Street & Henry Street



Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1717	0	1787	1750	0	0	1822	0	1752	1769	0
Flt Permitted	0.618			0.475				0.666		0.466		
Satd. Flow (perm)	1112	1717	0	883	1750	0	0	1230	0	859	1769	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			53			5			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	353	0	30	213	0	0	409	0	58	375	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	35.0	35.0		35.0	35.0			30.0		30.0	30.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40		0.40	0.40	
v/c Ratio	0.42	0.43		0.07	0.25			0.83		0.17	0.52	
Control Delay	16.4	13.6		11.8	9.9			36.7		16.2	19.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	16.4	13.6		11.8	9.9			36.7		16.2	19.0	
LOS	B	B		B	A			D		B	B	
Approach Delay		14.7			10.1			36.7			18.6	

Lanes, Volumes, Timings
 6: Chenango Street & Lewis Street





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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			D			B	
Queue Length 50th (ft)	63	90		7	42			164		17	119	
Queue Length 95th (ft)	109	142		17	61			#324		36	163	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	518	823		412	844			495		343	722	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.42	0.43		0.07	0.25			0.83		0.17	0.52	

Intersection Summary










Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 20.5
 Intersection Capacity Utilization 125.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service H
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Chenango Street & Lewis Street

 Ø2 (R) 35 s	 Ø4 40 s
 Ø6 (R) 35 s	 Ø8 40 s

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

11/18/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	21	10	3	6
Future Volume (vph)	11	15	21	10	3	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1819	1712	0
Flt Permitted	0.979			0.967		
Satd. Flow (perm)	1698	0	0	1819	1712	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Growth Factor	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	83	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 20.0% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	11	15	21	10	3	6
Future Vol, veh/h	11	15	21	10	3	6
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	39	53	56	27	8	16

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	160	21	29	0	0
Stage 1	21	-	-	-	-
Stage 2	139	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	833	1059	1591	-	-
Stage 1	1004	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	795	1054	1583	-	-
Mov Cap-2 Maneuver	795	-	-	-	-
Stage 1	963	-	-	-	-
Stage 2	886	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1583	-	926	-	-
HCM Lane V/C Ratio	0.035	-	0.099	-	-
HCM Control Delay (s)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Future Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1636	0	0	1768	0	0	1727	0	1641	1719	0
Flt Permitted		0.987			0.996			0.996		0.950		
Satd. Flow (perm)	0	1636	0	0	1768	0	0	1727	0	1641	1719	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		924			851			281			295	
Travel Time (s)		21.0			19.3			6.4			6.7	
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.73	0.73	0.73	0.53	0.53	0.53
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	63	0	0	159	0	15	129	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 29.8%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Future Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	10	10	10
Mvmt Flow	21	9	49	5	49	9	14	96	49	15	125	4

















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	335	331	131	340	309	122	129	0	0	146	0	0
Stage 1	157	157	-	150	150	-	-	-	-	-	-	-
Stage 2	178	174	-	190	159	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	613	584	911	608	600	921	1438	-	-	1388	-	-
Stage 1	838	762	-	845	767	-	-	-	-	-	-	-
Stage 2	817	749	-	805	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	558	571	908	556	586	920	1438	-	-	1387	-	-
Mov Cap-2 Maneuver	558	571	-	556	586	-	-	-	-	-	-	-
Stage 1	829	754	-	835	758	-	-	-	-	-	-	-
Stage 2	748	740	-	741	753	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		11.5		0.6		0.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	735	617	1387	-	-
HCM Lane V/C Ratio	0.01	-	-	0.109	0.103	0.011	-	-
HCM Control Delay (s)	7.5	-	-	10.5	11.5	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Future Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1787	0	0	1794	0	0	1829	0	0	1832	0
Flt Permitted		0.990			0.998			0.997			0.996	
Satd. Flow (perm)	0	1787	0	0	1794	0	0	1829	0	0	1832	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Growth Factor	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	78	0	0	203	0	0	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.8% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th AWSC
9: Fayette Street & Pine Street

11/18/2021

Intersection










Intersection Delay, s/veh 9.6
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Future Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	20	58	23	3	55	20	14	167	22	21	246	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	9			8.7			9.4			10.2		
HCM LOS	A			A			A			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	20%	4%	8%
Vol Thru, %	82%	57%	70%	90%
Vol Right, %	11%	23%	26%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	35	27	77
LT Vol	5	7	1	6
Through Vol	60	20	19	69
RT Vol	8	8	7	2
Lane Flow Rate	203	101	78	275
Geometry Grp	1	1	1	1
Degree of Util (X)	0.262	0.142	0.109	0.354
Departure Headway (Hd)	4.653	5.048	5.032	4.639
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	769	706	707	773
Service Time	2.702	3.109	3.097	2.683
HCM Lane V/C Ratio	0.264	0.143	0.11	0.356
HCM Control Delay	9.4	9	8.7	10.2
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	1	0.5	0.4	1.6

Lanes, Volumes, Timings
10: Carroll Street & Pine Street

11/18/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	20	82	20	15	81
Future Volume (vph)	6	20	82	20	15	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1588	0	1526	0	0	1795
Flt Permitted	0.989					0.992
Satd. Flow (perm)	1588	0	1526	0	0	1795
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Growth Factor	200%	200%	200%	200%	200%	200%
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	269	0	0	235
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.1% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
 10: Carroll Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	6	20	82	20	15	81
Future Vol, veh/h	6	20	82	20	15	81
Conflicting Peds, #/hr	1	12	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	76	76	82	82
Heavy Vehicles, %	6	6	9	9	5	5
Mvmt Flow	24	80	216	53	37	198

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	525	264	0	0	278
Stage 1	252	-	-	-	-
Stage 2	273	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.15
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.245
Pot Cap-1 Maneuver	506	765	-	-	1268
Stage 1	781	-	-	-	-
Stage 2	764	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	484	750	-	-	1257
Mov Cap-2 Maneuver	484	-	-	-	-
Stage 1	774	-	-	-	-
Stage 2	738	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	666	1257
HCM Lane V/C Ratio	-	-	0.156	0.029
HCM Control Delay (s)	-	-	11.4	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Future Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1760	0	0	1802	0	1703	1649	0	1687	1501	0
Flt Permitted		0.891			0.905		0.734			0.740		
Satd. Flow (perm)	0	1576	0	0	1639	0	1303	1649	0	1301	1501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			17			12			30	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	654	0	0	706	0	120	27	0	5	35	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30		0.30	0.30	
v/c Ratio		0.78			0.81		0.31	0.05		0.01	0.07	
Control Delay		19.6			20.9		18.2	11.0		14.5	7.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.6			20.9		18.2	11.0		14.5	7.6	
LOS		B			C		B	B		B	A	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.6			20.9			16.9			8.4	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		160			176		31	4		1	1	
Queue Length 95th (ft)		#278			206		60	16		4	6	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135			100		
Base Capacity (vph)		835			870		388	500		388	468	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.78			0.81		0.31	0.05		0.01	0.07	

Intersection Summary

Area Type: Other
 Cycle Length: 57
 Actuated Cycle Length: 57
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 19.6
 Intersection Capacity Utilization 63.4%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s	Ø4 35 s
Ø6 (R) 22 s	Ø8 35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Future Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1793	0	0	1736	0	0	1750	0	0	1689	0
Flt Permitted		0.979			0.964			0.826			0.746	
Satd. Flow (perm)	0	1759	0	0	1678	0	0	1465	0	0	1291	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			37			41			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	431	0	0	617	0	0	226	0	0	427	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		16.0			16.0			19.0			19.0	
Actuated g/C Ratio		0.36			0.36			0.42			0.42	
v/c Ratio		0.68			1.00			0.35			0.77	
Control Delay		16.3			53.9			9.1			23.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.3			53.9			9.1			23.8	
LOS		B			D			A			C	

Lanes, Volumes, Timings

2: Fayette Street & Henry Street

11/18/2021

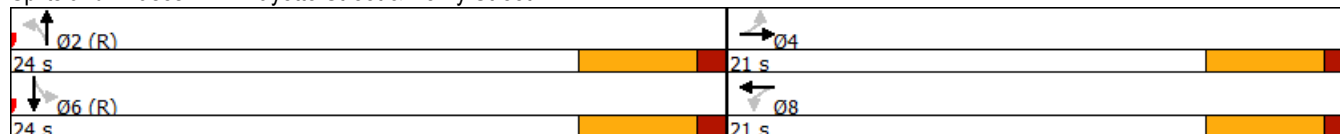
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.3			53.9			9.1			23.8	
Approach LOS		B			D			A			C	
Queue Length 50th (ft)		83			144			29			85	
Queue Length 95th (ft)		157			#298			58			#154	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		633			620			642			553	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.68			1.00			0.35			0.77	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 30.9
 Intersection Capacity Utilization 82.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Fayette Street & Henry Street



Lanes, Volumes, Timings

3: Carroll Street & Henry Street

11/18/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Volume (vph)	124	68	28	157	71	31
Future Volume (vph)	124	68	28	157	71	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	115		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Satd. Flow (prot)	1733	0	0	1868	1629	0
Flt Permitted				0.823	0.966	
Satd. Flow (perm)	1733	0	0	1547	1591	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	51				27	
Link Speed (mph)	30			30	30	
Link Distance (ft)	409			873	319	
Travel Time (s)	9.3			19.8	7.3	
Confl. Peds. (#/hr)		14	14		23	7
Confl. Bikes (#/hr)		8				2
Peak Hour Factor	0.92	0.92	0.87	0.87	0.76	0.76
Growth Factor	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	3%	3%	1%	1%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	522	0	0	531	336	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	55.0		55.0	55.0	35.0	
Total Split (%)	61.1%		61.1%	61.1%	38.9%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	51.0			51.0	31.0	
Actuated g/C Ratio	0.57			0.57	0.34	
v/c Ratio	0.52			0.61	0.58	
Control Delay	7.7			20.5	27.0	
Queue Delay	0.7			0.9	0.0	
Total Delay	8.3			21.4	27.0	
LOS	A			C	C	

Lanes, Volumes, Timings
 3: Carroll Street & Henry Street

11/18/2021

Lane Group	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	8.3			21.4	27.0	
Approach LOS	A			C	C	
Queue Length 50th (ft)	88			195	142	
Queue Length 95th (ft)	m145			m244	181	
Internal Link Dist (ft)	329			793	239	
Turn Bay Length (ft)						
Base Capacity (vph)	1004			876	578	
Starvation Cap Reductn	200			0	0	
Spillback Cap Reductn	0			135	1	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.65			0.72	0.58	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 55
 Control Type: Pretimed
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 17.8
 Intersection Capacity Utilization 76.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Carroll Street & Henry Street

↖ Ø2 (R) 35 s	→ Ø4 55 s
	↙ Ø8 55 s













Lanes, Volumes, Timings
4: Chenango Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Future Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1824	0	0	1801	0	0	1815	0	0	1758	0
Flt Permitted		0.786			0.888			0.760			0.792	
Satd. Flow (perm)	0	1444	0	0	1605	0	0	1390	0	0	1403	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			10			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	703	0	0	502	0	0	494	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	50.0	50.0		50.0	50.0		40.0	40.0		40.0	40.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		45.0			45.0			35.0			35.0	
Actuated g/C Ratio		0.50			0.50			0.39			0.39	
v/c Ratio		0.76			0.87			0.92			0.88	
Control Delay		26.1			25.2			50.6			43.3	
Queue Delay		0.0			2.7			0.0			0.0	
Total Delay		26.1			27.9			50.6			43.3	
LOS		C			C			D			D	

Lanes, Volumes, Timings
 4: Chenango Street & Henry Street





11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		26.1			27.9			50.6			43.3	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)		236			346			262			243	
Queue Length 95th (ft)		346			314			#464			#409	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		727			810			546			562	
Starvation Cap Reductn		0			46			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.76			0.92			0.92			0.88	

Intersection Summary




















Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 35.9
 Intersection Capacity Utilization 81.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Chenango Street & Henry Street

 Ø2 (R)	 Ø4
40 s	50 s
 Ø6 (R)	 Ø8
40 s	50 s

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1714	0	1787	1746	0	0	1822	0	1752	1769	0
Flt Permitted	0.527			0.321				0.628		0.443		
Satd. Flow (perm)	947	1714	0	597	1746	0	0	1160	0	816	1769	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			45			5			29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	441	0	38	267	0	0	511	0	73	469	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	33.0	33.0		33.0	33.0		42.0	42.0		42.0	42.0	
Total Split (%)	44.0%	44.0%		44.0%	44.0%		56.0%	56.0%		56.0%	56.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	28.0	28.0		28.0	28.0			37.0		37.0	37.0	
Actuated g/C Ratio	0.37	0.37		0.37	0.37			0.49		0.49	0.49	
v/c Ratio	0.77	0.67		0.17	0.39			0.89		0.18	0.53	
Control Delay	37.9	23.8		18.3	16.3			38.1		12.1	14.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	37.9	23.8		18.3	16.3			38.1		12.1	14.8	
LOS	D	C		B	B			D		B	B	
Approach Delay		29.2			16.5			38.1			14.5	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

11/18/2021

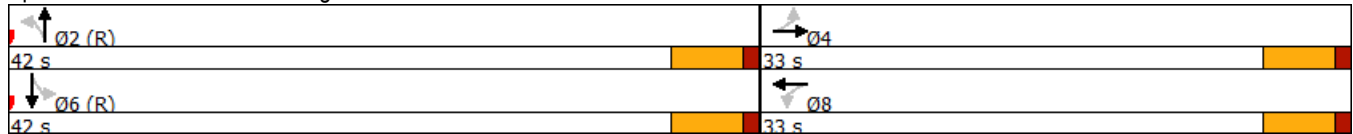
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			D			B	
Queue Length 50th (ft)	108	154		12	72			201		18	132	
Queue Length 95th (ft)	#210	231		26	98			#401		36	174	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	353	662		222	680			574		402	887	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.77	0.67		0.17	0.39			0.89		0.18	0.53	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 25.7
 Intersection Capacity Utilization 125.6%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.










Intersection LOS: C
 ICU Level of Service H

Splits and Phases: 6: Chenango Street & Lewis Street



Lanes, Volumes, Timings
7: Liberty Street & Pine Street

11/18/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	21	10	3	6
Future Volume (vph)	11	15	21	10	3	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1819	1712	0
Flt Permitted	0.979			0.967		
Satd. Flow (perm)	1698	0	0	1819	1712	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Growth Factor	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	0	103	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.4% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	11	15	21	10	3	6
Future Vol, veh/h	11	15	21	10	3	6
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	48	66	70	33	10	20


















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	198	25	35	0	0
Stage 1	25	-	-	-	-
Stage 2	173	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	793	1054	1583	-	-
Stage 1	1000	-	-	-	-
Stage 2	860	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	749	1049	1575	-	-
Mov Cap-2 Maneuver	749	-	-	-	-
Stage 1	950	-	-	-	-
Stage 2	856	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	897	-	-
HCM Lane V/C Ratio	0.044	-	0.127	-	-
HCM Control Delay (s)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Future Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1636	0	0	1766	0	0	1727	0	1641	1719	0
Flt Permitted		0.987			0.996			0.996		0.950		
Satd. Flow (perm)	0	1636	0	0	1766	0	0	1727	0	1641	1719	0
Link Speed (mph)		30			30			30		30		30
Link Distance (ft)		924			851			281		295		295
Travel Time (s)		21.0			19.3			6.4		6.7		6.7
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.73	0.73	0.73	0.53	0.53	0.53
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	80	0	0	199	0	19	161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12		12		12
Link Offset(ft)		0			0			0		0		0
Crosswalk Width(ft)		16			16			16		16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 33.4%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Future Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	10	10	10
Mvmt Flow	26	12	62	6	62	12	17	120	62	19	156	5

















Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	419	414	163	424	385	152	161	0	0	183	0	0
Stage 1	197	197	-	186	186	-	-	-	-	-	-	-
Stage 2	222	217	-	238	199	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	539	524	874	535	544	886	1400	-	-	1345	-	-
Stage 1	798	732	-	809	740	-	-	-	-	-	-	-
Stage 2	774	718	-	759	731	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	474	509	871	476	528	885	1400	-	-	1344	-	-
Mov Cap-2 Maneuver	474	509	-	476	528	-	-	-	-	-	-	-
Stage 1	787	722	-	797	729	-	-	-	-	-	-	-
Stage 2	689	707	-	681	721	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	11.3		12.5			0.7			0.8		
HCM LOS	B		B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1400	-	-	667	557	1344	-	-
HCM Lane V/C Ratio	0.012	-	-	0.15	0.143	0.014	-	-
HCM Control Delay (s)	7.6	-	-	11.3	12.5	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0	-	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Future Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1787	0	0	1796	0	0	1829	0	0	1830	0
Flt Permitted		0.990			0.998			0.997			0.996	
Satd. Flow (perm)	0	1787	0	0	1796	0	0	1829	0	0	1830	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Growth Factor	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	98	0	0	253	0	0	344	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 31.9% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th AWSC
 9: Fayette Street & Pine Street

11/18/2021

Intersection










Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Future Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	25	72	29	4	69	25	17	208	28	27	308	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	9.8			9.5			10.7			12.2		
HCM LOS	A			A			B			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	20%	4%	8%
Vol Thru, %	82%	57%	70%	90%
Vol Right, %	11%	23%	26%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	35	27	77
LT Vol	5	7	1	6
Through Vol	60	20	19	69
RT Vol	8	8	7	2
Lane Flow Rate	253	127	98	344
Geometry Grp	1	1	1	1
Degree of Util (X)	0.352	0.194	0.15	0.463
Departure Headway (Hd)	5.004	5.505	5.512	4.961
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	654	652	732
Service Time	3.004	3.522	3.53	2.961
HCM Lane V/C Ratio	0.35	0.194	0.15	0.47
HCM Control Delay	10.7	9.8	9.5	12.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.5	2.5

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

11/18/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	20	82	20	15	81
Future Volume (vph)	6	20	82	20	15	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1588	0	1526	0	0	1795
Flt Permitted	0.989					0.992
Satd. Flow (perm)	1588	0	1526	0	0	1795
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Growth Factor	250%	250%	250%	250%	250%	250%
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	0	336	0	0	293
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 44.4% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 10: Carroll Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	6	20	82	20	15	81
Future Vol, veh/h	6	20	82	20	15	81
Conflicting Peds, #/hr	1	12	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	76	76	82	82
Heavy Vehicles, %	6	6	9	9	5	5
Mvmt Flow	30	100	270	66	46	247

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	652	324	0	0	345
Stage 1	312	-	-	-	-
Stage 2	340	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.15
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.245
Pot Cap-1 Maneuver	426	708	-	-	1197
Stage 1	733	-	-	-	-
Stage 2	712	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	403	694	-	-	1187
Mov Cap-2 Maneuver	403	-	-	-	-
Stage 1	726	-	-	-	-
Stage 2	679	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	595	1187
HCM Lane V/C Ratio	-	-	0.218	0.039
HCM Control Delay (s)	-	-	12.7	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Future Volume (vph)	23	184	18	19	164	23	39	5	4	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270		0	135		0	135		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1760	0	0	1802	0	1703	1651	0	1687	1501	0
Flt Permitted		0.863			0.886		0.730			0.735		
Satd. Flow (perm)	0	1526	0	0	1604	0	1296	1651	0	1293	1501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			17			15			36	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			671			295			190	
Travel Time (s)		7.4			15.3			6.7			4.3	
Confl. Peds. (#/hr)	7		6	6		7	6		6	6		6
Confl. Bikes (#/hr)						3			1			4
Peak Hour Factor	0.86	0.86	0.86	0.73	0.73	0.73	0.81	0.81	0.81	0.50	0.50	0.50
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	785	0	0	847	0	144	34	0	6	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		22.0	22.0		22.0	22.0	
Total Split (%)	61.4%	61.4%		61.4%	61.4%		38.6%	38.6%		38.6%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0		17.0	17.0		17.0	17.0	
Actuated g/C Ratio		0.53			0.53		0.30	0.30		0.30	0.30	
v/c Ratio		0.97			0.99		0.37	0.07		0.02	0.09	
Control Delay		42.0			46.3		19.3	10.7		14.3	7.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		42.0			46.3		19.3	10.7		14.3	7.3	
LOS		D			D		B	B		B	A	

Lanes, Volumes, Timings

1: Chapman Street/Stadium Parking & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		42.0			46.3			17.6			8.2	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)		231			256		38	5		1	1	
Queue Length 95th (ft)		#434			#344		71	18		5	7	
Internal Link Dist (ft)		247			591			215			110	
Turn Bay Length (ft)							135			100		
Base Capacity (vph)		808			852		386	502		385	472	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.97			0.99		0.37	0.07		0.02	0.09	

Intersection Summary

Area Type: Other
 Cycle Length: 57
 Actuated Cycle Length: 57
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 40.8
 Intersection Capacity Utilization 71.6%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Chapman Street/Stadium Parking & Henry Street

Ø2 (R) 22 s	Ø4 35 s
Ø6 (R) 22 s	Ø8 35 s

Lanes, Volumes, Timings
2: Fayette Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Future Volume (vph)	5	135	15	12	150	48	21	36	17	73	50	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		110	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1794	0	0	1736	0	0	1750	0	0	1689	0
Flt Permitted		0.974			0.957			0.802			0.721	
Satd. Flow (perm)	0	1751	0	0	1666	0	0	1423	0	0	1248	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			39			38			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		873			598			293			378	
Travel Time (s)		19.8			13.6			6.7			8.6	
Confl. Peds. (#/hr)	4		8	8		4	4		4	4		4
Confl. Bikes (#/hr)			4			6			6			2
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.82	0.82	0.82	0.79	0.79	0.79
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	517	0	0	740	0	0	271	0	0	513	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (s)	23.0	23.0		23.0	23.0		22.0	22.0		22.0	22.0	
Total Split (%)	51.1%	51.1%		51.1%	51.1%		48.9%	48.9%		48.9%	48.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		18.0			18.0			17.0			17.0	
Actuated g/C Ratio		0.40			0.40			0.38			0.38	
v/c Ratio		0.73			1.07			0.48			1.07	
Control Delay		17.5			74.3			12.6			81.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.5			74.3			12.6			81.5	
LOS		B			E			B			F	

Lanes, Volumes, Timings
 2: Fayette Street & Henry Street

11/18/2021

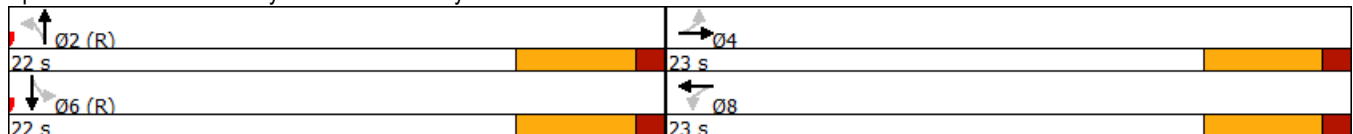
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.5			74.3			12.6			81.5	
Approach LOS		B			E			B			F	
Queue Length 50th (ft)		101			~219			43			~154	
Queue Length 95th (ft)		m158			#356			81			#247	
Internal Link Dist (ft)		793			518			213			298	
Turn Bay Length (ft)												
Base Capacity (vph)		708			689			561			479	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.73			1.07			0.48			1.07	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Pretimed
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 53.5
 Intersection Capacity Utilization 95.7%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Fayette Street & Henry Street



Lanes, Volumes, Timings

3: Carroll Street & Henry Street

11/18/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Volume (vph)	124	68	28	157	71	31
Future Volume (vph)	124	68	28	157	71	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	115		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Satd. Flow (prot)	1734	0	0	1866	1627	0
Flt Permitted				0.777	0.966	
Satd. Flow (perm)	1734	0	0	1461	1578	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	62				24	
Link Speed (mph)	30			30	30	
Link Distance (ft)	409			873	319	
Travel Time (s)	9.3			19.8	7.3	
Confl. Peds. (#/hr)		14	14		23	7
Confl. Bikes (#/hr)		8				2
Peak Hour Factor	0.92	0.92	0.87	0.87	0.76	0.76
Growth Factor	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	3%	3%	1%	1%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	0	0	638	402	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	62.0		62.0	62.0	28.0	
Total Split (%)	68.9%		68.9%	68.9%	31.1%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	58.0			58.0	24.0	
Actuated g/C Ratio	0.64			0.64	0.27	
v/c Ratio	0.55			0.68	0.89	
Control Delay	5.6			17.5	54.0	
Queue Delay	1.2			36.3	0.8	
Total Delay	6.8			53.8	54.8	
LOS	A			D	D	

Lanes, Volumes, Timings
 3: Carroll Street & Henry Street

11/18/2021

Lane Group	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	6.8			53.8	54.8	
Approach LOS	A			D	D	
Queue Length 50th (ft)	105			200	208	
Queue Length 95th (ft)	m97			m193	#274	
Internal Link Dist (ft)	329			793	239	
Turn Bay Length (ft)						
Base Capacity (vph)	1139			941	451	
Starvation Cap Reductn	292			0	0	
Spillback Cap Reductn	0			338	5	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.74			1.06	0.90	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 36.4
 Intersection Capacity Utilization 89.7%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Carroll Street & Henry Street

↖ Ø2 (R) 28 s	→ Ø4 62 s
	↖ Ø8 62 s

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Future Volume (vph)	30	137	23	25	164	39	35	121	25	30	90	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		80	150		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1824	0	0	1800	0	0	1815	0	0	1759	0
Flt Permitted		0.710			0.843			0.706			0.744	
Satd. Flow (perm)	0	1305	0	0	1524	0	0	1292	0	0	1319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			11			29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			409			496			327	
Travel Time (s)		11.7			9.3			11.3			7.4	
Confl. Peds. (#/hr)	12		33	33		12	27		18	18		27
Confl. Bikes (#/hr)			3			2			5			1
Peak Hour Factor	0.86	0.86	0.86	0.81	0.81	0.81	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	663	0	0	844	0	0	603	0	0	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	49.0	49.0		49.0	49.0		41.0	41.0		41.0	41.0	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%		45.6%	45.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		44.0			44.0			36.0			36.0	
Actuated g/C Ratio		0.49			0.49			0.40			0.40	
v/c Ratio		1.03			1.12			1.15			1.09	
Control Delay		68.5			88.5			116.4			91.3	
Queue Delay		0.0			0.3			0.0			0.0	
Total Delay		68.5			88.8			116.4			91.3	
LOS		E			F			F			F	

Lanes, Volumes, Timings
4: Chenango Street & Henry Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		68.5			88.8			116.4			91.3	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)		~405			~574			~406			~372	
Queue Length 95th (ft)		#574			#654			#613			#547	
Internal Link Dist (ft)		436			329			416			247	
Turn Bay Length (ft)												
Base Capacity (vph)		643			753			523			545	
Starvation Cap Reductn		0			37			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.03			1.18			1.15			1.09	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 90.5
 Intersection Capacity Utilization 96.1%
 Analysis Period (min) 15

Intersection LOS: F
 ICU Level of Service F

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Chenango Street & Henry Street

Ø2 (R)	Ø4
41 s	49 s
Ø6 (R)	Ø8
41 s	49 s

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Future Volume (vph)	92	102	48	11	49	29	52	128	10	23	113	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	450		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	1736	1713	0	1787	1745	0	0	1822	0	1752	1771	0
Flt Permitted	0.445			0.191				0.531		0.405		
Satd. Flow (perm)	800	1713	0	356	1745	0	0	981	0	747	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			43			6			31	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		560			676			570			624	
Travel Time (s)		12.7			15.4			13.0			14.2	
Confl. Peds. (#/hr)	19		19	19		19	1		2	2		1
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.93	0.93	0.93	0.79	0.79	0.79
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	325	529	0	45	320	0	0	613	0	87	562	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		35.0	35.0		35.0	35.0	
Total Split (s)	31.0	31.0		31.0	31.0		44.0	44.0		44.0	44.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		58.7%	58.7%		58.7%	58.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effect Green (s)	26.0	26.0		26.0	26.0			39.0		39.0	39.0	
Actuated g/C Ratio	0.35	0.35		0.35	0.35			0.52		0.52	0.52	
v/c Ratio	1.17	0.86		0.37	0.51			1.19		0.22	0.60	
Control Delay	136.6	37.5		28.7	20.0			127.2		11.7	15.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	136.6	37.5		28.7	20.0			127.2		11.7	15.2	
LOS	F	D		C	C			F		B	B	
Approach Delay		75.2			21.1			127.2			14.7	

Lanes, Volumes, Timings
6: Chenango Street & Lewis Street

11/18/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			C			F			B	
Queue Length 50th (ft)	~184	212		15	99			~353		21	160	
Queue Length 95th (ft)	#308	#349		35	128			#549		40	206	
Internal Link Dist (ft)		480			596			490			544	
Turn Bay Length (ft)	80			450						300		
Base Capacity (vph)	277	616		123	633			513		388	935	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.17	0.86		0.37	0.51			1.19		0.22	0.60	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Pretimed
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 64.3
 Intersection Capacity Utilization 130.7%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service H










~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Chenango Street & Lewis Street

Ø2 (R) 44 s							Ø4 31 s				
Ø6 (R) 44 s							Ø8 31 s				

Lanes, Volumes, Timings
7: Liberty Street & Pine Street

11/18/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	15	21	10	3	6
Future Volume (vph)	11	15	21	10	3	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1698	0	0	1819	1712	0
Flt Permitted	0.979			0.967		
Satd. Flow (perm)	1698	0	0	1819	1712	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	851			237	275	
Travel Time (s)	19.3			5.4	6.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.57	0.57	0.75	0.75	0.75	0.75
Growth Factor	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	0	0	124	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.0% ICU Level of Service A
Analysis Period (min) 15

HCM 6th TWSC
7: Liberty Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	11	15	21	10	3	6
Future Vol, veh/h	11	15	21	10	3	6
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	75	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	58	79	84	40	12	24

Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	237	29	41	0	-	0
Stage 1	29	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	753	1049	1575	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	1044	1568	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
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















HCM Control Delay, s	9.9	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	1568	-	868	-	-
HCM Lane V/C Ratio	0.054	-	0.158	-	-
HCM Control Delay (s)	7.4	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Lanes, Volumes, Timings
8: Chapman Street & Pine Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Future Volume (vph)	9	4	21	2	21	4	5	35	18	4	33	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			50		
Satd. Flow (prot)	0	1638	0	0	1766	0	0	1727	0	1641	1719	0
Flt Permitted		0.987			0.996			0.996		0.950		
Satd. Flow (perm)	0	1638	0	0	1766	0	0	1727	0	1641	1719	0
Link Speed (mph)		30			30			30		30		30
Link Distance (ft)		924			851			281		295		295
Travel Time (s)		21.0			19.3			6.4		6.7		6.7
Confl. Peds. (#/hr)			4	4					1	1		
Confl. Bikes (#/hr)						2			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.73	0.73	0.73	0.53	0.53	0.53
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	95	0	0	239	0	23	193	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12		12		
Link Offset(ft)		0			0			0		0		
Crosswalk Width(ft)		16			16			16		16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 36.0%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
8: Chapman Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Future Vol, veh/h	9	4	21	2	21	4	5	35	18	4	33	1
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	65	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	73	73	73	53	53	53
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	10	10	10
Mvmt Flow	32	14	74	7	74	14	21	144	74	23	187	6

















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	503	497	194	508	463	182	193	0	0	219	0	0
Stage 1	236	236	-	224	224	-	-	-	-	-	-	-
Stage 2	267	261	-	284	239	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	474	470	840	471	492	853	1362	-	-	1304	-	-
Stage 1	760	704	-	772	713	-	-	-	-	-	-	-
Stage 2	732	687	-	717	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	400	453	837	406	474	852	1362	-	-	1303	-	-
Mov Cap-2 Maneuver	400	453	-	406	474	-	-	-	-	-	-	-
Stage 1	746	691	-	757	699	-	-	-	-	-	-	-
Stage 2	632	674	-	626	689	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		13.9		0.7		0.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1362	-	-	603	501	1303	-	-
HCM Lane V/C Ratio	0.015	-	-	0.199	0.19	0.017	-	-
HCM Control Delay (s)	7.7	-	-	12.4	13.9	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.7	0.1	-	-

Lanes, Volumes, Timings
 9: Fayette Street & Pine Street

11/18/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Future Volume (vph)	7	20	8	1	19	7	5	60	8	6	69	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1787	0	0	1794	0	0	1829	0	0	1830	0
Flt Permitted		0.990			0.998			0.997			0.996	
Satd. Flow (perm)	0	1787	0	0	1794	0	0	1829	0	0	1830	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		874			924			295			293	
Travel Time (s)		19.9			21.0			6.7			6.7	
Confl. Peds. (#/hr)	1		1	1		1	6		5	5		6
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Growth Factor	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	0	117	0	0	304	0	0	413	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 35.6% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th AWSC
 9: Fayette Street & Pine Street

11/18/2021

Intersection










Intersection Delay, s/veh 13.5
 Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Future Vol, veh/h	7	20	8	1	19	7	5	60	8	6	69	2
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.72	0.72	0.72	0.56	0.56	0.56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	30	87	35	4	83	30	21	250	33	32	370	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	11			10.5			12.7			15.8		
HCM LOS	B			B			B			C		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	20%	4%	8%
Vol Thru, %	82%	57%	70%	90%
Vol Right, %	11%	23%	26%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	35	27	77
LT Vol	5	7	1	6
Through Vol	60	20	19	69
RT Vol	8	8	7	2
Lane Flow Rate	304	152	117	412
Geometry Grp	1	1	1	1
Degree of Util (X)	0.449	0.251	0.195	0.599
Departure Headway (Hd)	5.316	5.943	5.975	5.229
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	675	601	598	689
Service Time	3.366	4.006	4.04	3.274
HCM Lane V/C Ratio	0.45	0.253	0.196	0.598
HCM Control Delay	12.7	11	10.5	15.8
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	2.3	1	0.7	4

Lanes, Volumes, Timings
 10: Carroll Street & Pine Street

11/18/2021

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	20	82	20	15	81
Future Volume (vph)	6	20	82	20	15	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1588	0	1528	0	0	1795
Flt Permitted	0.989					0.992
Satd. Flow (perm)	1588	0	1528	0	0	1795
Link Speed (mph)	30		30			30
Link Distance (ft)	874		421			319
Travel Time (s)	19.9		9.6			7.3
Confl. Peds. (#/hr)	1	12		9	9	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.50	0.50	0.76	0.76	0.82	0.82
Growth Factor	300%	300%	300%	300%	300%	300%
Heavy Vehicles (%)	6%	6%	9%	9%	5%	5%
Parking (#/hr)			0			
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	0	403	0	0	351
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 50.2% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
10: Carroll Street & Pine Street

11/18/2021

Intersection

Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	6	20	82	20	15	81
Future Vol, veh/h	6	20	82	20	15	81
Conflicting Peds, #/hr	1	12	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	76	76	82	82
Heavy Vehicles, %	6	6	9	9	5	5
Mvmt Flow	36	120	324	79	55	296

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	780	385	0	0	412
Stage 1	373	-	-	-	-
Stage 2	407	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.15
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.245
Pot Cap-1 Maneuver	358	654	-	-	1131
Stage 1	688	-	-	-	-
Stage 2	663	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	334	641	-	-	1121
Mov Cap-2 Maneuver	334	-	-	-	-
Stage 1	682	-	-	-	-
Stage 2	623	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	529	1121
HCM Lane V/C Ratio	-	-	0.295	0.049
HCM Control Delay (s)	-	-	14.6	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2

2. Commercial and Housing Provider Stakeholder Interview Notes

SDMP Stakeholder Outreach Notes

John Hughes – Rumble Ponies – Week of 4/12, 10/7

- Would like to attend City meeting
- Audience – Families, moms, kids, large groups, churches organizations, electrician unions
 - Some big sports fans, but a small percentage
- Community anchor, events . Example: We Care – Wednesdays fundraising
- Fans – what supports those people?
- Biggest challenge by far – surrounding area not complementary
 - Population of registered sex offenders within District is well-known and detracts from area; Henry Street is a significant deterrent
 - Feels that the City should consider acquiring properties across from the Post Office to rehabilitate or to demolish
 - Area currently feels anti-family, people don't like to walk around after dark
- People stay at the Holiday Inn
 - People will go to 'nice areas'
- Brand new parking garage very helpful
- Would like to see more shops
 - Cafes with outdoor seating – with kids, beer gardens, safe areas
 - Communal areas
 - Blocking off the road for pedestrian only
 - Stadium activity, people able to spread out
- Another draw – big restaurants
- Visitors – look into new headquarters
- Comments about potential new commercial development
 - Outdoor Mall – shopping area (outdoor)
 - When families come back downtown - recovering metro areas
- Other baseball stadiums, cities to research
 - The Battery – Atlanta Braves
 - Kids, moms, and families
 - Cooperstown – unique shops in district
 - Niche stuff – outdoor shopping
 - Larimer Square – Denver – walk around – mile, solid
 - Raleigh, NC – LaFayette Village – small, unique
 - Bike shop, coffee, pastries, butcher
- Transit
 - They tried to work with BU – no bus stops close by
- Highway – highly visible – a gateway, first impression
- Complementary – Ice Cream with Mark Yonaty
- Adding more active uses on the street level
 - Felt that renovations to existing concrete block wall on Henry Street to allow for food and other commercial activity on street would be possible

Mark Yonaty – Lackawanna Train Station – Week of 4/12

- Owns historic Train Station building
- Also owns Gold Smith
- Lewis Street Area
 - They recently repaved, did cool things
 - Lots of old infrastructure in that area
 - Makes sense to look at history of sewer and water
 - Infrastructure funding bill – can this be tapped?
 - Other places are starting to run utilities underground instead of telephone poles
 - Cost trade off
- Owns VA Clinic
 - Next closest is in Syracuse; VA needs to be near library, hospital, fast food, highway, other amenities and destinations to serve patients
 - Court to Pine
 - Just tore down next door
 - This area is neglected
 - Whole area needs to be reimagined
 - Housing at market rate, for young professionals?
 - WPD to Follow up – A lot more info on VA needed
 - # Staff, visitors, etc.
 - Expanding – 40,000 sf of out-patient, audio, x-ray, etc.
 - Significant renovation
 - Frustration with City – tear down blight for parking
 - City – sidewalks need to be concrete, City responsibility to repair sidewalks
 - Gateway into the City
 - He owns the warehouse in the back
 - County grant – Vet's community center
 - They bought Vestal Hills Golf Course, could put VA community Center there
- Across the Street from VA – Court Street
 - Used to be a sheltered workshop, both VA parcel and across the street
 - Mark was outbid by out of town investor
- Highway pull off – focus at Lewis
 - People from city coming to Binghamton
- Maintenance and infrastructure
 - Stamped concrete, trees, etc.
 - Needs comprehensive long-term infrastructure
- Business suffers at street
- Pine Street – City built 4 – 8 homes – not enough for housing demand
- Train Station restaurant – there is no sidewalk in front of the building – street too wide?

John Layish – Red Barn Tech – Week of 4/12

- Business operations
 - Creative Team
 - Web Design - Branding - Social Media - Screen Printing - Car Wraps
 - 1996 – Retail mostly; Still do some retail
 - Their biggest client is Cornell; Customers are all over
- Neighbors
 - Tranquil closed; work with Amici's sometimes;
 - Junkies @ house across the street
 - VA opened recently, good activity
- Parking is good, easy to find
- Area
 - Does feel like area not in downtown crowded, expensive
 - Development will follow – go east
 - Student housing has been coming
- Building
 - Building was formerly a community center
 - 1700 sf concrete bldg., untouched since 1970s
 - 35 employees
 - Staff lives – as far as Whit Pt – Local – not walking
 - Would they live in the area?
- Next door - 44 Fayette used to be in bad condition; Red Barn kept calling code
 - They acquired – will talk to the City about options
 - Great visual access to Henry Street
 - If more parking, a bigger hurdle
 - Some rough people in area, bad experiences - Human excrement, sex on porch
 - They have fenced in area to keep garbage away
 - Green space – likely (would benefit from help from City)
- Stadium is underutilized – need to promote
- W. side of Pine Street is better
 - Library good – part of downtown
 - Liberty/Chapman much worse
- Puzzles – helps fit Court St/Stadium/Library/Phelps
- VA clinic – don't interface much, have tried
- How might they change re masterplan
- Pivot point – any non draw is good, whether it is housing
 - They are in casual merger talks in MD
- HUB, zone certification – people live in it
 - Historically underutilized business district
 - Look into this more
 - Less commuting – walking district employees
- He may or may not renovate new property

Josias Bartram – Broome County Library – Week of 4/12

- Library is in the middle of community needs assessment
 - Will be done by May 13
 - Can send draft to SDMP project team
 - 530 responses – library users and non-users
 - Looking at deeper surveys and stakeholders
 - Library can help distribute SDMP survey
- Neighborhood
 - Widespread, erroneous perception of no safety
 - Josias uncomfortable
 - People don't come because of this perception
 - There is likely a racial element
 - This point of neighborhood is cut off from downtown by vacant buildings
 - Pine Street housing conditions – not good
 - Bed bugs being brought into library is a major problem in this neighborhood
 - Not a county health issue
 - Wants to see teardown or rehab of buildings near library – on Court Street at corner of Carroll
 - Banners/lights – want to extend to library
 - Parking – issue – people fill lots because not enough parking elsewhere
 - Want to do neighborhood block parties, food trucks, at library parking lot
 - Demographic information is available
 - Bike/walk/bus/drive
 - Can do cross tabulations
 - Josias will send spreadsheet and analysis
 - Housing – interested in knowing these numbers
 - Student housing might make sense
 - Some transitional housing – Vets, homeless, halfway housing on block
- Greater Opportunities
 - JK can get us in touch
 - Pine Street
 - Any development – affordable housing
 - Parking at stadium and walking to Library?
 - Some places in the neighborhood have no parking
 - Would be interested in this for large events
 - They own overflow lot at Pine St.
 - Poorly maintained and designed
 - Open green space – underutilized – they want to use it more, but garden needs help
 - Library programming at park is possible
 - People want a coffee shop
 - Potential coffee carts outside, etc.
 - Community WIFI?
 - People use WIFI as far as they can get it
- VINES – Community Gardens – Pine Street
 - Collaborate with the library
- Koffman incubator
 - This area needs to be treated as part of downtown by the City
- Library is drafting diversity inclusion anti-racism plan soon
 - How would this affect SDMP?

Michael Abettan, Isaac Anzaroot 5/21

Parcels within SDMP boundary

- Currently under contract for multiple properties across the street from the post office
- This is the 3rd time some of these properties have been under contract – seller agitated
- Future plans for these parcels include demolishing existing buildings and incorporating new mixed-use development
- Additional parcels currently under contract are located at the end of Henry Street near the overpass
- WPD to look into how the vacant parcels near the overpass on Henry and Chapman can contribute to the gateway and Chapman?
- Condemned parcels on Henry were under contract but then fell through before settlement
- There is still interest in acquiring them
- There was interest in extending the SDMP boundary, WPD mentioned the boundary is pretty much set as is

WPD Outreach Efforts to Date

- Michael and Isaac are the first developers WPD has spoken with

Roadblocks for Developing Parcels in this District

- Financing is a large roadblock currently
- Property taxes ‘through the roof’
- Helpful programs could include
- PILOT or extended PILOT agreements
- Grants to help with payment
- Historic Restoration grants not as helpful for current building sizes
- Opportunity Zones

Current Thoughts on the Stadium District Neighborhood

- Lack of safe, affordable, newly constructed housing
- Benefit of new housing to draw in young professionals, working class, etc.
- Current housing aged and unsafe
- Could benefit from building condos
- Promote pride and ownership in the area
- Many students live downtown and other residents include parolees and residents on welfare
- Contribution to crime in the neighborhood
- City should invest in improvements to this area
- Redevelopment
- Improve the impression of the block altogether
- Larger buildings with retail would really boost the neighborhood

Previous Zoning Experience

- Variances have been requested in the past and granted
- Minimal concern about changes in zoning needed

Developer’s Proposed Masterplan

- Proposed increase in density throughout the district
- 6 to 8 story buildings on Henry and Fayette
- 10 story building on Court Street

Binghamton Metropolitan Transportation Study – Wednesday 7/14/21

Jennifer Yonkoski, Scott Riegle

- Centennial Plaza – likes idea of exploring getting rid of slip lane
 - May need to keep turning lane
- Traffic coming to stadium uses Susquehanna – people park on street in neighborhoods
- Post Office – walking from downtown is awkward – have to cross mid-block
- Agree that traffic study should focus on Henry Street
 - Lane reduction, median – all possible
- Agree with lighting improvements; even going to Library have some concerns
 - Evenings – agree that more destinations would be better- restaurants
- Closing off traffic during games – could look at this
- Parking during game days- paid parking- may need to keep access to these parcels
- On Henry Street- former telephone building – a big blank wall – make this more welcoming
- Henry/Chenango – very wide intersection – add more streetscape near building
- DOT ROW Route 363 bridge- lighting improvements
 - Would like to see all of these areas better lit
 - Or, working with building owners – up and down lighting like Security Mutual, DoubleTree Hotel – does a lot to brighten up corridor
- Parking
 - How many would be gained with proposed on street?
 - Look at 2016 study- make sure to look at this
 - Taking away some parking would likely not make this area less attractive – in close proximity to on street parking
- Traffic Study
 - How many are there today and how many are proposed?
 - Look at 2016 study, Court Street study [roundabout], signal at Chenango/Henry could use some analysis, another signal on Court Street- not warranted
 - Route 363 design options – will not remove off-ramps
 - Trail – could there be a connection to Rock Bottom Dam
 - There are a lot of traffic counts on their website, might be able to help with study

Rob Ruggiero – 38 Pine Street, 138 Hawley Street - Wednesday 9/15/21

Former Tranquil – across the street

- Ground floor space
 - Actively trying to fill with restaurant tenant – Tranquil closed appx. 4 years ago
 - Was in conversation with empanada business that got advice from affiliate of Koffman Incubator Center, but this fell through
 - Would be interested in other business incubation opportunities here, such as a ‘ghost kitchen’ or test kitchen for current or recent culinary students at BCC
 - Would be interested in farm-to-table concept as well
 - Post-covid conditions – labor crunch, expenses are tough for restaurant industry right now
 - Estimates would need \$100k to get this space ready to open (plus cost of running business)
 - Façade improvements would be of interest
- Neighborhood
 - Recognizes some safety concerns while walking around area
 - Parking has never been a problem
 - Liked having restaurant here as part of network with Amici’s, Mad Monks, and in future the incoming restaurant at Train Station
 - Could be better connected to downtown – former Tranquil owners called it ‘the Fringe’ which could be catchy if marketed
 - More student housing is coming this way, rehabilitating buildings
- Potential ideas for neighborhood
 - Infill housing such as tiny home concept would be interesting to him
 - ‘Food hall’-style commercial space would be well suited to area – current temporary fire station?
- Streetscape
 - Better walkability to downtown would help

Dan DiRienzo – Amici’s – Wednesday 9/15/21

- Family history
 - Owner of Amici’s - DiRienzo Bakery owner is family relation
 - Family has owned properties, business in this neighborhood since 1904; he grew up on Henry St.
 - Family owned entire block across from Stadium for a time – used to have several houses on it – these were removed to allow for parking at current properties
 - Remembers when dense development was in district, including Arlington Hotel; tailors, barbers used to be in area
 - Family-owned property was demolished to construct Chapman Street
- Overall relationship with stadium
 - Many people pass his business by after games – do not stay in area
 - Wants to attract these people from outside of the area who are less familiar with neighborhood
 - Perception of safety and walkability very important, interested in these potential changes
 - Many businesses depend on stadium
- Business
 - Closed during Covid; has been open 3 days a week for past several months
 - Looking into options for moving South, potentially selling business/property if good offer was made; was in discussions with property owner who has several other properties in district
 - Did extensive interior renovations in space including adding windows
 - Spends on advertising
 - Covid hurt restaurant industry – labor crunch is real for him; Covid hit his business, family hard
- Neighborhood
 - Absentee landlords – residents do not even know who their landlords are, being exploited
 - These landlords are not maintaining properties
 - Post Office draws variety of people regularly – could tap into that group for lunch service
- Ideas for potential changes
 - Would be interested in any façade programs
 - Looked into having rooftop dining on current building
 - Would be interested in on-street dining if sidewalks were widened
 - High quality infill development as seen in other cities such as Schenectady, NY with planters, lighting, new buildings
 - Likes idea of network of other restaurants once former Tranquil, new Train Station restaurant spaces are filled, with Mad Monks
- Streetscape
 - Would be interested in improved curbs, street trees, signage, lighting, etc. to improve streets, bring to same standard as downtown core
 - Bring more attention to projects in this area – feels forgotten when projects happen downtown
 - He had to pay for ADA access to his building, has to clean up garbage regularly
 - Looking to City for more assistance, ownership of streetscape, sidewalks in area
 - Last time street was redone was in 1991

Jerry Willard – First Ward Action Council – 11/1/21

- First Ward Action Council is a not-for-profit community organization that has a mission of improving Binghamton's neighborhoods by providing quality affordable housing. The organization was founded in 1982 and undertook its first projects by 1987 [confirm].
- Mr. Willard introduced his organization
- The First Ward Action Council is a community based housing provider undertaking projects since 1982
 - Acquires and operates most as rental projects
 - A few are sold to be owner occupied
 - Operates some scattered rentals but prefers to undertake rehab of a 'critical mass' of buildings in a one or two block area
 - Some new construction
 - Most a solely residential but a few mixed use
 - All affordable, some senior
- The Front Street project:
 - Saw as having a big impact on one of the gateways to the City
 - Funding was a mix of low income tax credits, Community Development Block Grants, and City of Binghamton
 - Crandall Street is a similar project.
- Project Approach
 - Negotiate with property owners for the sale of properties
 - The City is an important partner in the negotiations
 - Goal is to restore and add character wherever possible. This may not a cost-effective approach for market rate – must be able to acquire for a reasonable price
 - Assess individual properties and rehab whenever possible but occasionally demolish and build new
 - Effective execution of the projects requires a particular team approach
 - Admit that individual structures may not be historic but neighborhoods have character worth preserving
 - Wants to add aesthetic value to the street
 - Architectural historian Sterns & Crawford sets tone and develops look of the restoration strategy
 - Keystone Architecture is Architect of record
 - Contractor and tradesman interested in historical restoration, results in aesthetic that is appreciated and valued by community
- Affordable Housing
 - Tax credits partially fund
 - 60% of area median income is upper cost limit
 - Not supportive housing though does partner with support organizations for individuals.
 - Skepticism about the strategy has been brought up but they have been successful in maintaining the quality of their homes for decades
- Business
 - They do own some mixed use – 81 Clinton St.
 - Has seen bounce back with neighborhood improvements – doubts the two businesses on the ground floor would be there without the rehabbed housing

Metro Interfaith – 11/10/21 - Laura Reinhardt (Director), Conant Smith, Ray Coyle, Crystal Warner

- 110 Chenango Street – elderly affordable housing
- 94 Henry Street – their property
 - Issues on both sides of this building – crime, degraded buildings, etc.
- Needs/ concerns for their elderly housing at metro Plaza
 - Crime and safety- drug dealing in area
 - There is garbage, lack of code enforcement, and crime in the district
 - Absentee landlords in the district bring the quality down
 - More garden areas – mental health benefits working with plants – thereapeutic, a worthwhile and rewarding hobby; they started a community garden at another property
 - Grocery store – fresh food
 - Pharmacy – the CVS downtown shutting down is a real concern
 - Community center downtown – Bingo, crafts – they do activities at Metro Plaza, but wider community would benefit from this type of programming
 - Some residents go to the library for programming
 - Mental health counseling in area would be helpful – now located on North Side
 - Bus service – Office of Aging takes them grocery shopping – need to reserve a time
 - Health clinic downtown would be helpful
 - Hair dresser downtown – helps them feel more taken care of
- Majority of supportive housing in City is concentrated downtown
 - They think that the district should add more affordable, moderate, and even market rate – not more supportive housing – bring more types of people to the district
 - The area used to have a lot more homeowners – Henry Street, Pine Street, all the way to Columbus School – used to be Italian American community, then Urban Renewal levelled a lot of the homes – if we make this entire area supportive housing
 - More homeownership = better maintenance, taking care of community
 - Adding more young families
 - More homeownership in district – they counsel people, are HUD certified
 - They could tear down and build existing houses to make affordable first-time homebuyer homes
 - Properties are slowly being acquired through tax foreclosee – Broome County Land Bank, City – looking to revitalize these homes, or, tear them down and rebuild – if really push on these programs, could build a lot of home ownership in the district - single family / townhomes
 - Not enough green space and parks for kids in the area
 - The landlords are not enforcing code, rules/regulations with tenants, this brings property values down
 - This is why they are looking more into home ownership
 - There is a lot of affordable elderly, sspcial needs housing in area; more is not needed downtown
 - At 110 Chengango, spportive staff are available as needed 24/7
 - Their housing is independent housing, not assisted living
 - Working with agencies in area that specialize in support; example – Catholic Charities does case management and they provide housing for chronic mental health
- If they were to do housing development in district would apply for grants from NYS, federal, etc.
- Removal of slip lane between Centennial Plaza and 100/110 Chenango
 - This is the access for move-in move-out – trucks need to unload
 - Loading area on Henry Street would be beneficial
 - Emergency access to building would be needed – driveable pavers for example with bollards
 - Currently residents are scared to go there due to drug dealing
 - Further development of park – garden space, small play area, more families visiting the park would help make area safer
 - Their residents could help maintain plantings; partnered with VINES for community gardening
- Open Spaces
 - Residents walk to river
 - Some walk down Chenango and go to shops, to Court Street
- They will send a copy of the logo from the first-time homebuyer academy

Mark Yonaty – 11/10/21

- Agrees with approach for affordable near Post Office, agrees Henry St. is important
- Chenango/Lewis Street intersection would be great for market-rate
 - They tried buying this a few times – a waste of space
 - Would be a great location for small grocery store; something like an Aldi's, with fresh food
 - Grocery store would be walkable to many people if sited downtown
 - Would be interested in partnering to develop this
 - U-Haul in this area seems inappropriate – seems like there would be a better use for this lot
- Depot buildings – he bought remainder of the Ari Meizel buildings- Nice to be on the fringe of downtown
- To attract more young professionals, older people
 - the Chenango/Lewis area would be ideal
 - Better signage for businesses throughout City, including wayfinding
 - Has a housing study been done in downtown to show amount of affordable / moderate / market rate, and what is needed? - **Follow up with City**
 - City planning to rehab Water Street garage to be market rate housing – and becomes a direct competitor; currently scaling back a project on State St from 5 to 2 stories
 - Big question is where people are coming from to afford these rents – good well-paying jobs are needed
 - Moderate income – space on some residential streets in district for renovations to existing buildings
 - We are hearing that a more diverse population would be better for district
- There are a lot of people in the District that don't work, are on government assistance, and thinks this area will and should continue to be affordable
- There should be accountability for maintenance of buildings and streets
 - Needs to be right species, and there needs to be staff to take care of them
 - LED lights need to work
 - Hardscape – needs to be maintained well – pavers/street trees are heaving
 - Keeping things clean and maintained is fundamental to the vitality of the district
- Trying to acquire any vacant houses in area – usually demolish these
- Chapman St. near new Fire Station – this is a major gateway to the City
 - Not long ago they added new center islands – overgrown with weeds, many trees have died, not maintained – make cleaner at gateway to downtown –fire station will enhance appearance
 - There are sidewalks in front of VA that have been repaired with asphalt – a bad look – City has tried to make him pat 50/50 for new sidewalk
- Sheltered Workshop – a project going in there
 - Jeff Kent – (516) 643-7717 jeffkent@optonline.net owner of the building
 - County built new veterans community center – suggests bringing that back across from VA Clinic; if geared toward veterans – movies, pool, lunches – would improve quality of life
 - VA Clinic used to be a sheltered workshop –Jeff Kent in 2015.
 - Current landlords at Sheltered Workshop – would like to work with him to put a tenant in there
- Court Street side of VA Clinic – the houses between the clinic and the gas station are not well maintained – should be homeowners? – Current landlords don't put investment into buildings (Caggadore family)
 - Demolition due to neglect of buildings – foundations crumbling
- Henry St – Anzaroot approached Amici – not recommend
- More jobs in area: new solar company, battery company, Sure-Scan tech companies – bringing more high quality jobs to the area would transform the area and generate more demand more housing
- Lackawanna station – starting to build a restaurant – just installed concrete patio
 - Lewis Street is wide for a street that doesn't have a lot of traffic
 - Wants sidewalk at 45 Lewis in front of building – there is room for sidewalk there –more walkable
- Area between Chapman and Liberty needs improvements – dilapidated buildings
- Surface parking- They added trees and landscaping to train station parking – if parking areas can be improved for trees and bioretention areas would really improve the district
- “Take single base hits – home runs are few and far between”
- Likes direction of plan

Greater Opportunities – 11/10/21 Kelly Robertson, President, Mark Silvanic, CEO

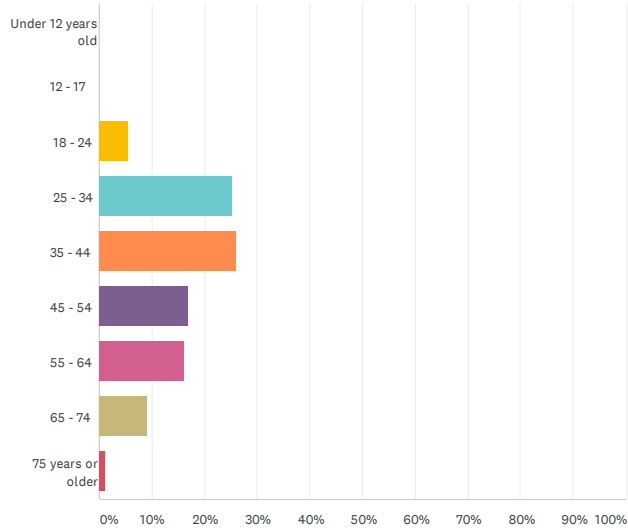
- Approach to projects
 - Greater Op's renovates buildings that need repairs, make them usable again for rental units; they
 - Own over 130 units in City
 - Focus is on low income and homeless housing; all is supportive
 - All have funding for rehabilitation
 - Rent to low to moderate income residents, Also do senior living
 - Have written \$12million in grants – 27 Pine Street homeless veterans housing (built at same time as VA clinic), 86-94 Carroll Street, 85 Liberty Street – a few million dollars in 202, Currently working with City \$7.5 million project -18 unit Munsel St.
 - Building 27 units now throughout City
 - Trying hard to set up a business model within their not for profit for a maintenance department – which helps them to be more successful with grants, because maintenance funding is not offered
- Henry St – a few large buildings formerly owned by Afify – used to only be able to house sex offenders there because not near families, schools – this is well-known as the only place that will take them
- Greater Ops can't take sex offenders because they have families, and same with other affordable housing
- The neighborhood itself can be a challenge to the stadium
 - There is a lot of discussion and disagreement about this at housing organizations
 - No good answer to the question of where sex offenders are supposed to live
 - They have the same needs as anyone else – food, transportation, health
 - In a way, it has helped people coming out of jail to have a place for people to live
 - Having them near Stadium is a conflict
 - Landlord of these buildings does not maintain them at all
 - DSS will continue to pay for monthly expenses, and this is guaranteed money for these landlords
- Pine Street has become a better street over the years – more student housing is moving into this area – 3, 13 Pine St. – Fairview works with alcohol crisis center;
- Thinks there is enough low-income housing in the area – there should be a mix, balance of people with income levels – if too much low income, will detract other people.
 - Add more moderate to low income housing
- Seems like there is some animosity growing between housing organizations and the colleges – can make more money on college students – causing some gentrification within old neighborhoods as it is pushing people out; student housing is another unnecessary thing to add in this area
- Reputation of neighborhood
 - Need more green space, play grounds
 - Want more access to parks
 - No grocery stores, not readily accessible services for families and individuals living there
 - Binghamton School District is a wonderful school with great resources – but lately district has taken a big hit, and people are not moving to area as they feel the schools are not equipped to handle students' needs – preventing families from moving into area
- Need to be strategic with marketing – with consideration to drinking near Stadium District
 - Market to young professionals, retired people
 - Harder sell to families
- Losing housing stock would be a problem for the City
 - There are not many places to live anymore – there are many buildings that need work – 60% buildings in Binghamton were built before 1960 – they need to be maintained
- Riverwalk is a great amenity
- Parking
 - Hard to find parking during game days; adding more street parking would be great
 - Paid parking makes it hard for residents; could be a permit system for residents
- Attracting more moderate income residents
 - More cultural attractions and businesses bring people downtown – destinations bring people
 - Infilling more businesses

- Parking and wayfinding would help
- Need a mix of market rate, moderate, and affordable housing
- Better lighting – some areas are very dark, feels unsafe
- Displacement and gentrification
 - Families and people there now are there because it is affordable – and this could be because neighborhood is in the state it is in
 - Hard to balance – Binghamton has been awarded more HAAP grants – largest total grant – have brought a lot of state funding to area, but there can be too much low income housing in area
 - Aging people are still in Binghamton – leaving big houses on West Side (young professionals can buy these up)
 - Greater Ops may move away from this area of Binghamton – spread out to Johnson City and Endicott
- Community events
 - LUMA is a huge family event; one big concern is wanting to go earlier in the day, because they don't want to go around downtown at night back to their
 - Family events like First Night were great
 - Events at library don't have enough parking
 - More events brings more community generosity
- Influx of people from New York City
 - Lower-income people
 - Displacement discussions – more and more not the long-time residents, but new residents in area
 - Disagreements between long-time and new lower-income residents
- Investing in the community leads to pride – revitalization to area will make residents feel better about living in this area, remove stigma of neighborhood; there is a lot of pride in the city.
- Broome County Land Bank
 - Work with taking buildings off foreclosure and converting to single-family homes
 - Have done a lot in City of Binghamton – could tell values
 - Low- to moderate-income homeowners
 - Just awarded \$2million in CDBG funding to renovate houses for first-time homebuyers
 - Jessica Nejeschleda – Executive Director – jne@co.broome.ny.us (607) 778-6001

3. Survey Data Results

Q2 Please select your age range.

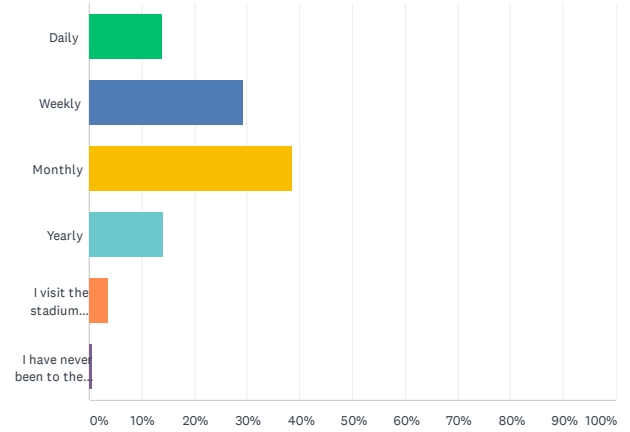
Answered: 420 Skipped: 1



ANSWER CHOICES	RESPONSES	
Under 12 years old	0.00%	0
12 - 17	0.00%	0
18 - 24	5.48%	23
25 - 34	25.24%	106
35 - 44	25.95%	109
45 - 54	16.90%	71
55 - 64	16.19%	68
65 - 74	9.29%	39
75 years or older	0.95%	4
TOTAL		420

Q3 How often do you visit the Stadium District?

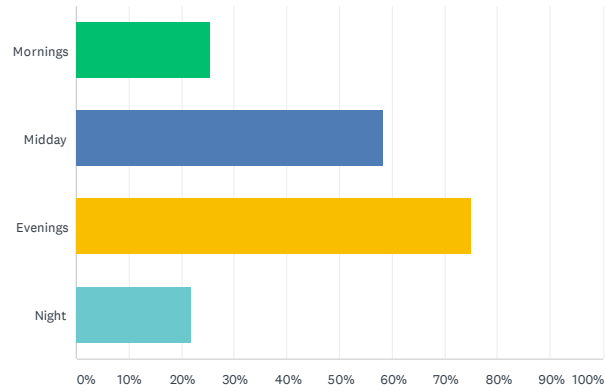
Answered: 419 Skipped: 2



ANSWER CHOICES	RESPONSES	
Daily	13.84%	58
Weekly	29.36%	123
Monthly	38.42%	161
Yearly	14.08%	59
I visit the stadium district less than once a year	3.58%	15
I have never been to the stadium district	0.72%	3
TOTAL		419

Q4 What time of day do you usually visit the Stadium District? Please choose all that apply.

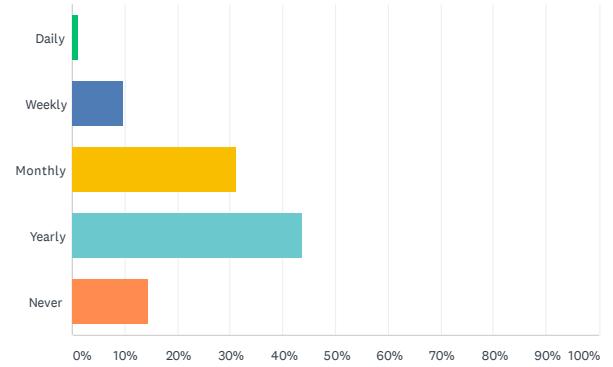
Answered: 419 Skipped: 2



ANSWER CHOICES	RESPONSES	
Mornings	25.54%	107
Midday	58.47%	245
Evenings	75.18%	315
Night	21.72%	91
Total Respondents: 419		

Q6 How often do you visit the Rumble Ponies Stadium?

Answered: 420 Skipped: 1

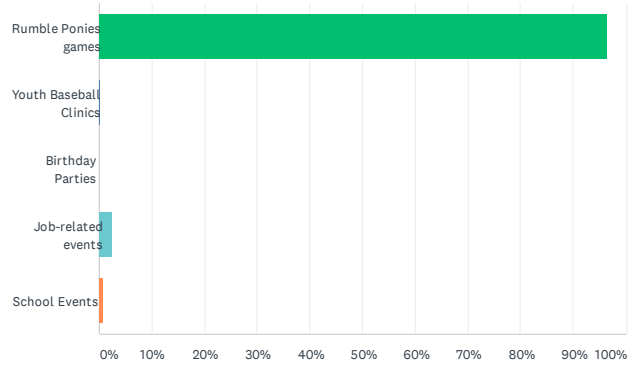


ANSWER CHOICES	RESPONSES	
Daily	0.95%	4
Weekly	9.52%	40
Monthly	31.19%	131
Yearly	43.81%	184
Never	14.52%	61
TOTAL		420

Binghamton SDMP Public Survey

Q7 What do you do there?

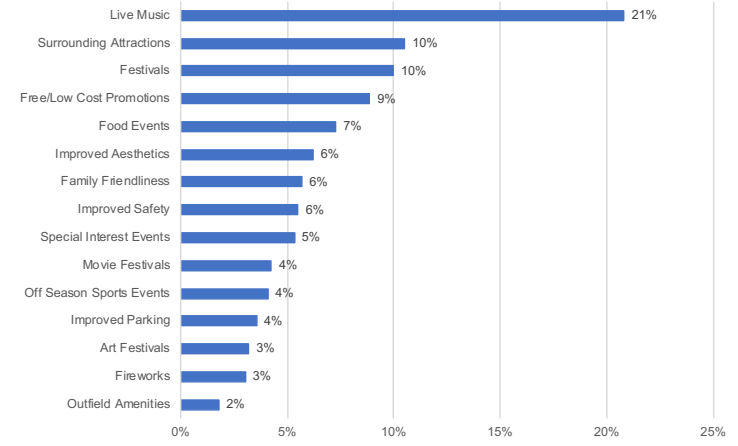
Answered: 365 Skipped: 56



ANSWER CHOICES	RESPONSES	
Rumble Ponies games	96.44%	352
Youth Baseball Clinics	0.27%	1
Birthday Parties	0.00%	0
Job-related events	2.47%	9
School Events	0.82%	3
TOTAL		365

Binghamton SDMP Public Survey

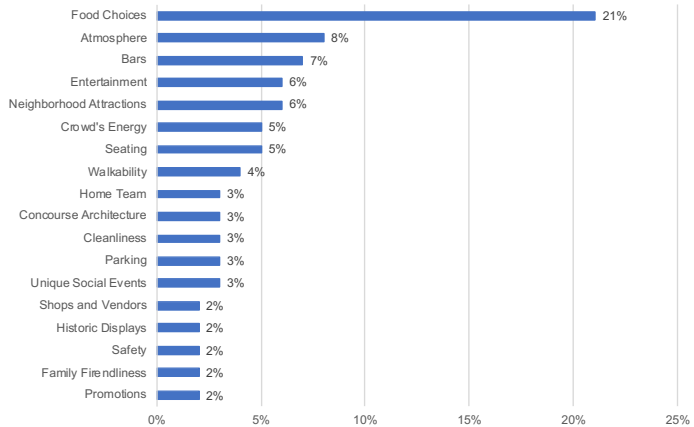
Q8 What types of [activities] might bring you the Rumble Ponies Stadium more often?



ANSWER CHOICES	RESPONSES	
Outfield Amenities	2%	10
Fireworks	3%	17
Art Festivals	3%	18
Improved Parking	4%	20
Off Season Sports Events	4%	23
Movie Festivals	4%	24
Special Interest Events	5%	30
Improved Safety	6%	31
Family Friendliness	6%	32
Improved Aesthetics	6%	35
Food Events	7%	41
Free/Low Cost Promotions	9%	50
Festivals	10%	56
Surrounding Attractions	10%	59
Live Music	21%	117
TOTAL		563

Binghamton SDMP Public Survey

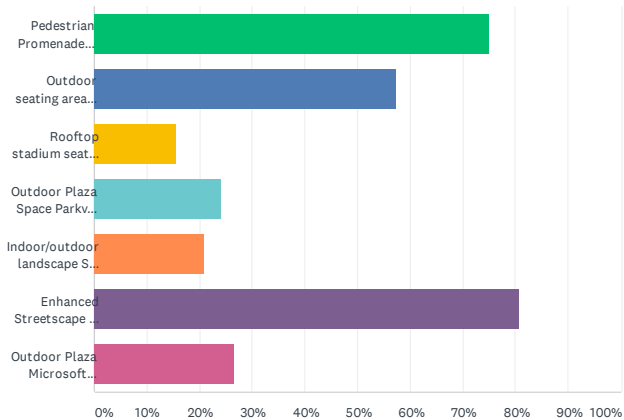
Q10 What was your favorite part of other stadiums you've visited?










ANSWER CHOICES	RESPONSES	
Promotions	2%	9
Family Firendliness	2%	10
Safety	2%	11
Historic Displays	2%	12
Shops and Vendors	2%	13
Unique Social Events	3%	14
Parking	3%	15
Cleanliness	3%	16
Concourse Architecture	3%	18
Home Team	3%	18
Walkability	4%	20
Seating	5%	29
Crowd's Energy	5%	29
Neighborhood Attractions	6%	30
Entertainment	6%	33
Bars	7%	37
Atmosphere	8%	42
Food Choices	21%	111
		540

Q11 What improvements would you like to see at the Rumble Ponies Stadium? Please choose the top 3 from the images below.

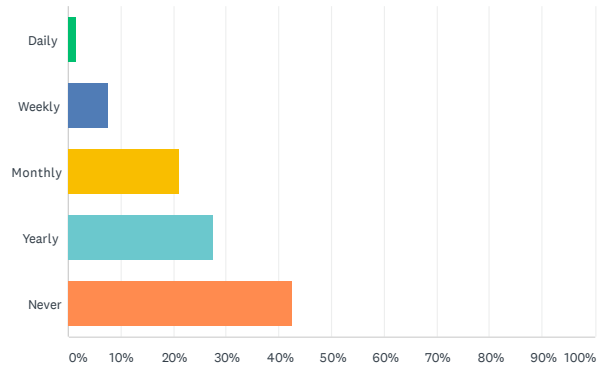
Answered: 421 Skipped: 0



ANSWER CHOICES	RESPONSES	
 Pedestrian Promenade Oriole Park at Camden Yards, Eutaw Street - Baltimore, MD	75.06%	316
 Outdoor seating area Wrigleyville 1, Wrigley Field - Chicago, IL	57.24%	241
 Rooftop stadium seating Wrigleyville 2, Wrigley Field - Chicago, IL	15.44%	65
 Outdoor Plaza Space Parkview Field - Fort Wayne, IN	23.99%	101
 Indoor/outdoor landscape Sofi Stadium - Inglewood, CA	20.90%	88
 Enhanced Streetscape for pedestrian use Fenway Park - Boston, MA	80.76%	340
 Outdoor Plaza Microsoft Square at Nokia Plaza - Los Angeles, CA	26.60%	112
Total Respondents: 421		

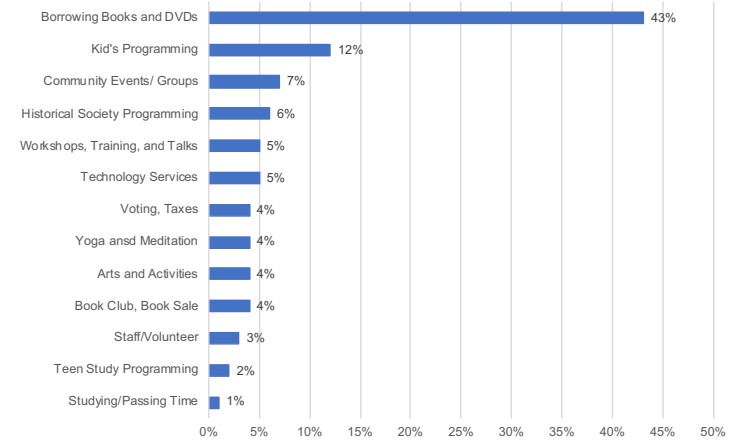
Q12 Do you visit Broome County Library? If yes, please select how often from the options below. If no, please continue on to question 13.

Answered: 403 Skipped: 18



ANSWER CHOICES	RESPONSES	
Daily	1.49%	6
Weekly	7.44%	30
Monthly	21.09%	85
Yearly	27.54%	111
Never	42.43%	171
TOTAL		403

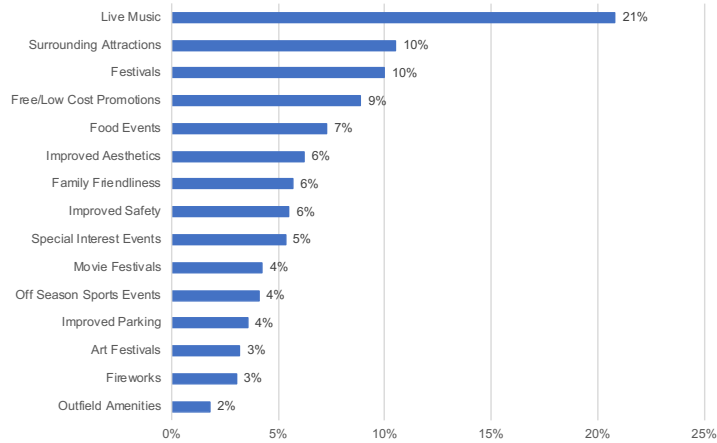
Q13 What kind of programming do you participate in at the Library?



ANSWER CHOICES	RESPONSES	
Studying/Passing Time	1%	3
Teen Study Programming	2%	5
Staff/Volunteer	3%	7
Book Club, Book Sale	4%	11
Arts and Activities	4%	9
Yoga and Meditation	4%	10
Voting, Taxes	4%	11
Technology Services	5%	13
Workshops, Training, and Talks	5%	12
Historical Society Programming	6%	14
Community Events/ Groups	7%	18
Kid's Programming	12%	29
Borrowing Books and DVDs	43%	105
TOTAL		247

Binghamton SDMP Public Survey

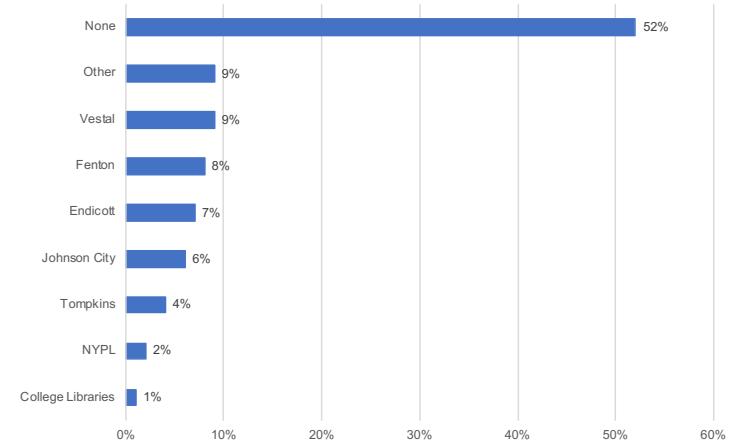
Q14 What types of things might bring you to the Library more often?
What would they look like or do?



ANSWER CHOICES	RESPONSES	
Meet and Greet Sports Teams	2%	5
Coffee Shop/Cafe	2%	5
Additional books and resources	3%	8
Technology instruction	3%	7
Interactive Programs	4%	9
Historical/local interest	4%	9
Improved Outdoor spaces/ events	4%	9
Craft Circles/ Art Classes	6%	14
Music Opportunities	6%	14
Better Community Spaces	6%	15
Community Activities	8%	18
Author Visits/Readings, Book Giveaways/Sales	10%	23
Additional kid's/Family programming	11%	26
Host Lectures	12%	28
Additional workshops	12%	28
		218

Binghamton SDMP Public Survey

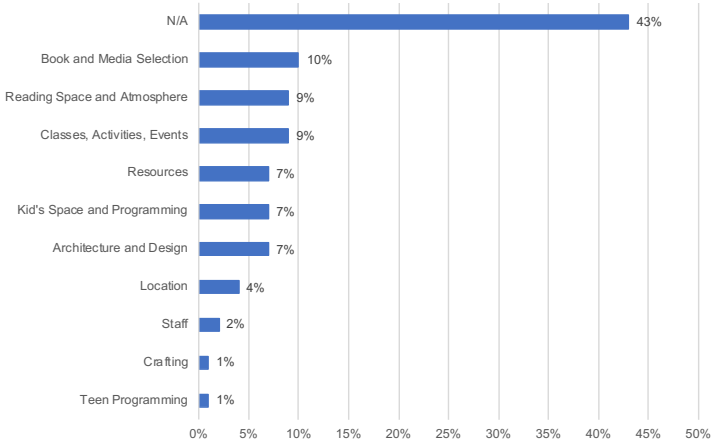
Q15 What other libraries in the region have you visited and enjoyed?



ANSWER CHOICES	RESPONSES	
College Libraries	1%	3
NYPL	2%	6
Tompkins	4%	10
Johnson City	6%	17
Endicott	7%	18
Fenton	8%	21
Vestal	9%	23
Other	9%	23
None	52%	137
		258

Binghamton SDMP Public Survey

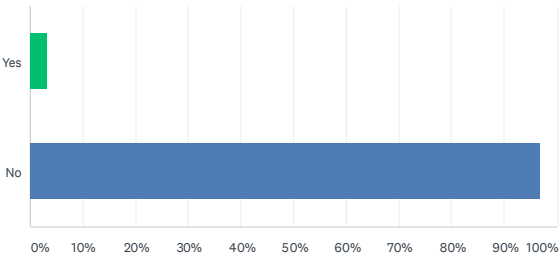
Q16 What were your favorite things about the other libraries that you've visited?



ANSWER CHOICES	RESPONSES	
Teen Programming	1%	3
Crafting	1%	3
Staff	2%	6
Location	4%	10
Architecture and Design	7%	18
Kid's Space and Programming	7%	17
Resources	7%	17
Classes, Activities, Events	9%	22
Reading Space and Atmosphere	9%	24
Book and Media Selection	10%	26
N/A	43%	110
		256

Q17 Do you visit the VA Clinic, the Lourdes Center for Metal Health, or the Association for Vision Rehab?

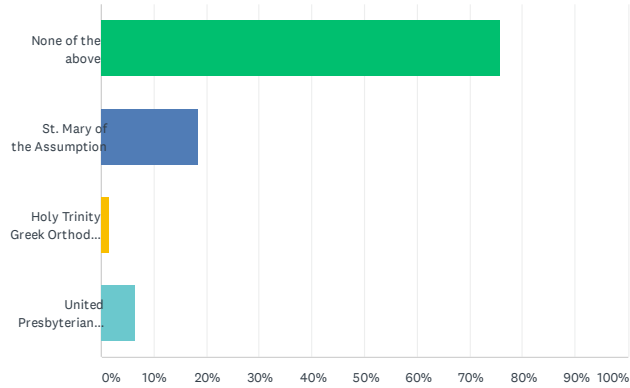
Answered: 407 Skipped: 14



ANSWER CHOICES	RESPONSES	
Yes	3.19%	13
No	96.81%	394
TOTAL		407

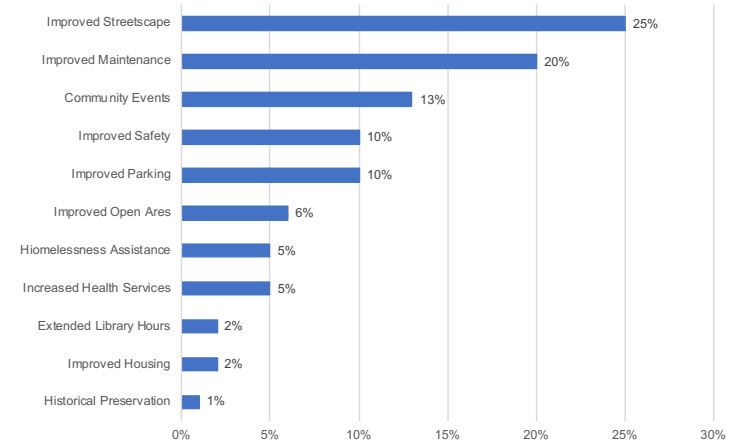
Q18 Do you visit any churches listed below? Please select.

Answered: 416 Skipped: 5



ANSWER CHOICES	RESPONSES
None of the above	75.72% 315
St. Mary of the Assumption	18.51% 77
Holy Trinity Greek Orthodox Church	1.44% 6
United Presbyterian Church Binghamton	6.49% 27
Total Respondents: 416	

Q20 What other improvements/developments would you like to see for the library, churches, and/or VA Clinic, the Lourdes Center for Mental Health, or the Association for Vision Rehab?

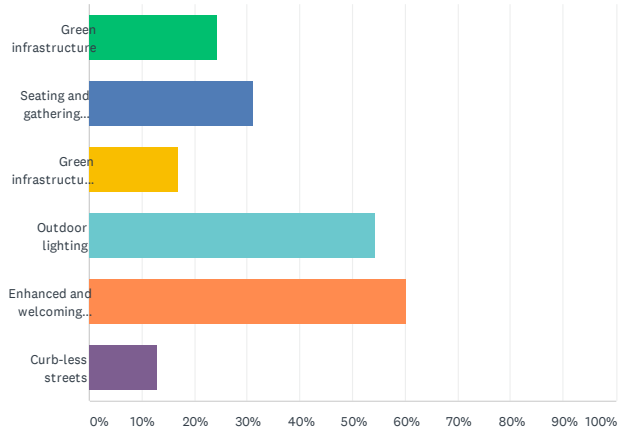








ANSWER CHOICES	RESPONSES
Improved Streetscape	25% 42
Improved Maintenance	20% 34
Community Events	13% 21
Improved Safety	10% 17
Improved Parking	10% 16
Improved Open Ares	6% 10
Hiomelessness Assistance	5% 8
Increased Health Services	5% 8
Extended Library Hours	2% 4
Improved Housing	2% 3
Historical Preservation	1% 2
Total Responses	165

Binghamton SDMP Public Survey

Q21 What streetscape improvements would you like to see around the district? Please choose 2 of your favorites from the images below.

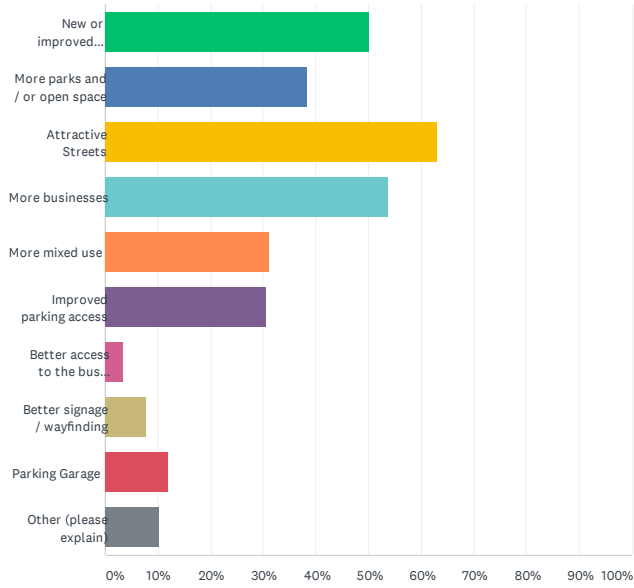
Answered: 421 Skipped: 0



ANSWER CHOICES	RESPONSES	
 Green infrastructure	24.23%	102
 Seating and gathering spaces	31.12%	131
 Green infrastructure with wider sidewalks	16.86%	71
 Outdoor lighting	54.39%	229
 Enhanced and welcoming storefronts	60.33%	254
 Curb-less streets	13.06%	55
Total Respondents: 421		

Q22 As part of the long-term vision for this area, which of the following would you prioritize to be built? Pick the top 3.

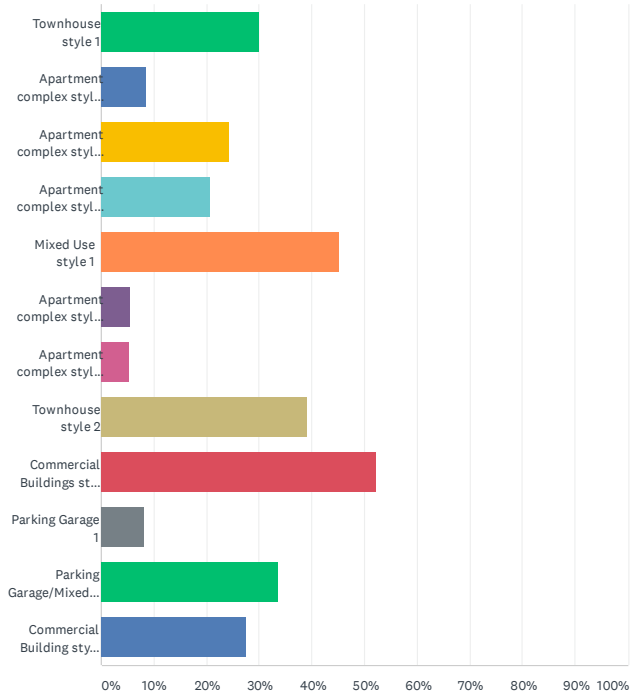
Answered: 421 Skipped: 0















ANSWER CHOICES	RESPONSES	
New or improved housing	50.12%	211
More parks and / or open space	38.24%	161
Attractive Streets	62.95%	265
More businesses	53.68%	226
More mixed use	31.12%	131
Improved parking access	30.64%	129
Better access to the bus station	3.33%	14
Better signage / wayfinding	7.84%	33
Parking Garage	11.88%	50
Other (please explain)	10.21%	43
Total Respondents: 421		

Q23 What character would you like to see in new development that could come into this area? Please choose your favorite 3 from the images below.

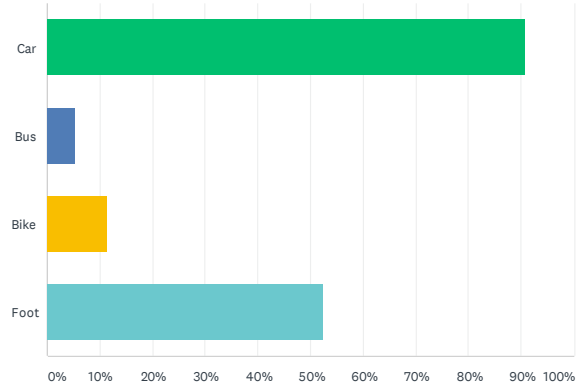
Answered: 421 Skipped: 0



ANSWER CHOICES	RESPONSES
 Townhouse style 1	29.93% 126
 Apartment complex style 1	8.55% 36
 Apartment complex style 2	24.23% 102
 Apartment complex style 3	20.67% 87
 Mixed Use style 1	45.13% 190
 Apartment complex style 4	5.46% 23
 Apartment complex style 5	5.23% 22
 Townhouse style 2	39.19% 165
 Commercial Buildings style 1	52.26% 220
 Parking Garage 1	8.08% 34
 Parking Garage/Mixed use style 1	33.73% 142
 Commercial Building style 2	27.55% 116
Total Respondents: 421	

Q24 How do you get around the district? Choose all that apply.

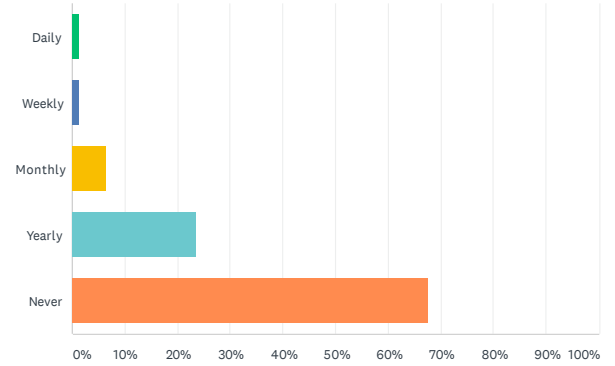
Answered: 421 Skipped: 0



ANSWER CHOICES	RESPONSES
Car	90.74% 382
Bus	5.23% 22
Bike	11.40% 48
Foot	52.49% 221
Total Respondents: 421	

Q25 How often do you go to the bus station?

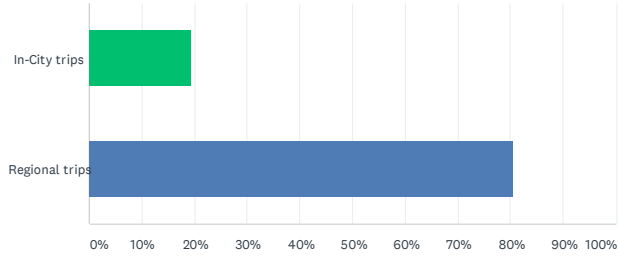
Answered: 420 Skipped: 1



ANSWER CHOICES	RESPONSES
Daily	1.19% 5
Weekly	1.19% 5
Monthly	6.43% 27
Yearly	23.57% 99
Never	67.62% 284
TOTAL	420

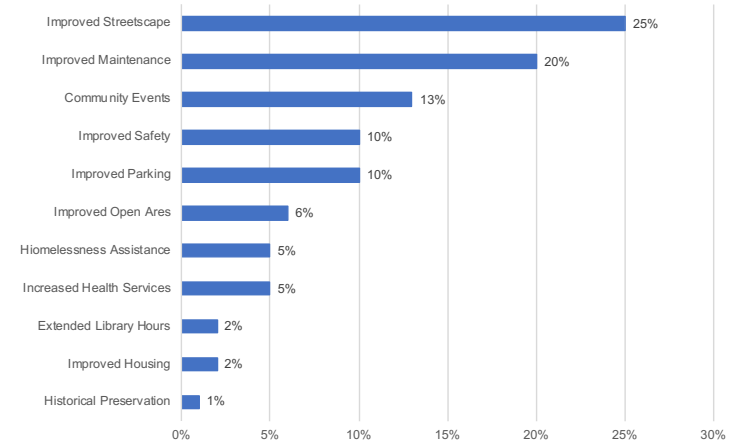
Q26 What trips do you use the bus station for?

Answered: 149 Skipped: 272



ANSWER CHOICES	RESPONSES	
In-City trips	19.46%	29
Regional trips	80.54%	120
TOTAL		149

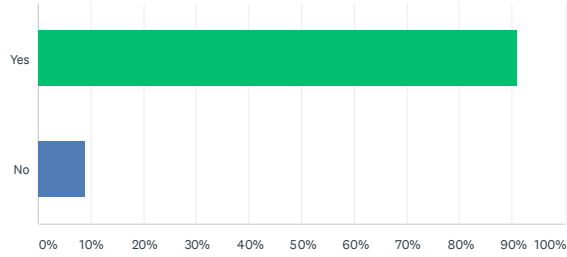
Q27 What improvements / additions would make you use the bus station more?



ANSWER CHOICES	RESPONSES	
Cheaper Fares	1%	1
Seating	3%	3
More Transporation	4%	4
Extended Hours	5%	5
Better Signage	6%	7
More Green Space	7%	8
More Routes	8%	9
Improved Passenger Pick Up	9%	10
More Food Variety	11%	12
Improved Maintenance	13%	14
Improved Area and Lighting	14%	15
Improved Safety	19%	21
TOTAL		109

Q28 Would you consider using passenger rail if it came to Binghamton?

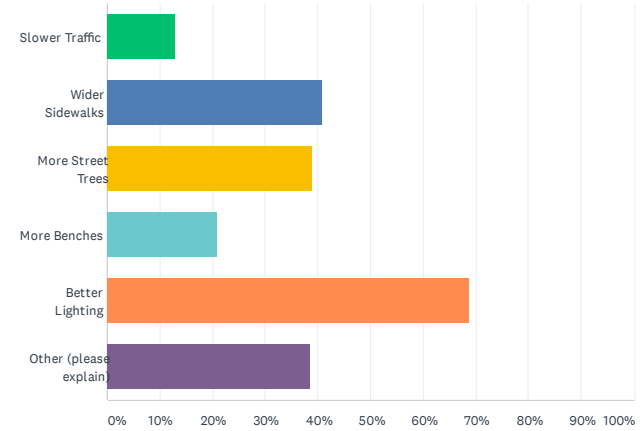
Answered: 412 Skipped: 9



ANSWER CHOICES	RESPONSES	
Yes	91.02%	375
No	8.98%	37
TOTAL		412

Q29 What features would make you want to walk more in the district?

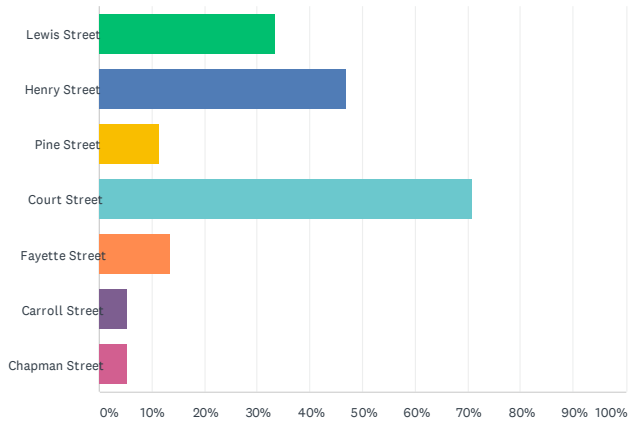
Answered: 414 Skipped: 7



ANSWER CHOICES	RESPONSES	
Slower Traffic	13.04%	54
Wider Sidewalks	40.82%	169
More Street Trees	38.89%	161
More Benches	21.01%	87
Better Lighting	68.84%	285
Other (please explain)	38.41%	159
Total Respondents: 414		

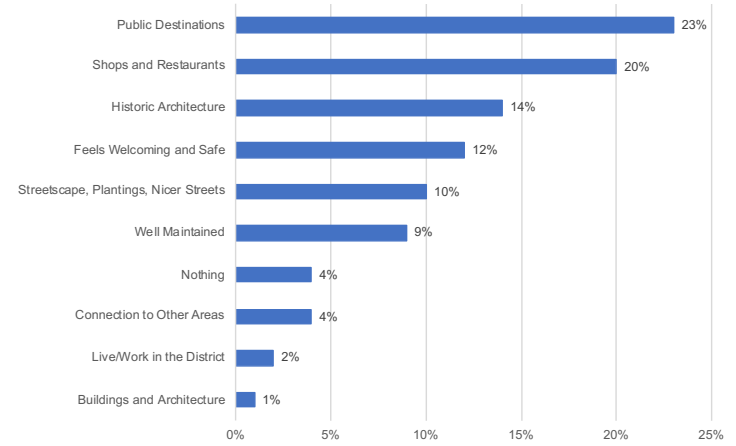
Q30 What areas do you like most within the district? Please use map for reference and check all that apply.

Answered: 379 Skipped: 42



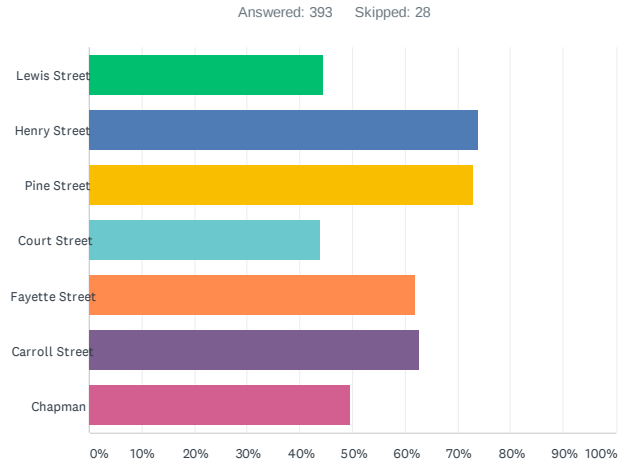
ANSWER CHOICES	RESPONSES	
Lewis Street	33.51%	127
Henry Street	46.97%	178
Pine Street	11.35%	43
Court Street	70.98%	269
Fayette Street	13.46%	51
Carroll Street	5.28%	20
Chapman Street	5.28%	20
Total Respondents: 379		

Q31 What do you like about these areas?



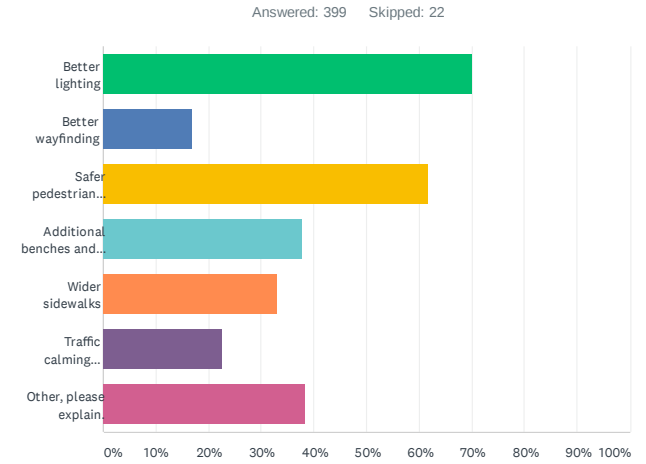
ANSWER CHOICES	RESPONSES	
Buildings and Architecture	1%	3
Live/Work in the District	2%	4
Connection to Other Areas	4%	9
Nothing	4%	10
Well Maintained	9%	21
Streetscape, Plantings, Nicer Streets	10%	22
Feels Welcoming and Safe	12%	27
Historic Architecture	14%	32
Shops and Restaurants	20%	47
Public Destinations	23%	54
		229

Q32 What areas in the district do you think could be improved? Please use map for reference and choose all that apply.



ANSWER CHOICES	RESPONSES	
Lewis Street	44.27%	174
Henry Street	73.79%	290
Pine Street	73.03%	287
Court Street	44.02%	173
Fayette Street	61.83%	243
Carroll Street	62.85%	247
Chapman	49.62%	195
Total Respondents: 393		

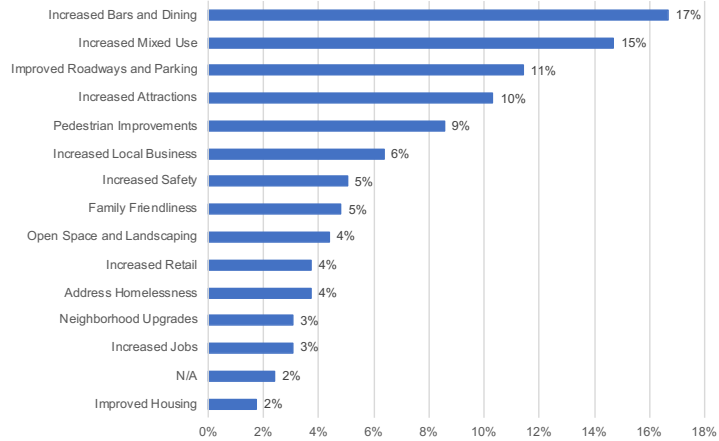
Q33 How do you think these areas could be improved?



ANSWER CHOICES	RESPONSES	
Better lighting	70.18%	280
Better wayfinding	17.04%	68
Safer pedestrian connections	61.65%	246
Additional benches and street trees	37.84%	151
Wider sidewalks	33.08%	132
Traffic calming measures	22.56%	90
Other, please explain.	38.35%	153
Total Respondents: 399		

Binghamton SDMP Public Survey

Q34 If you could change anything about this district, what would it be?



ANSWER CHOICES	RESPONSES	
Improved Housing	2%	8
N/A	2%	11
Increased Jobs	3%	14
Neighborhood Upgrades	3%	14
Address Homelessness	4%	17
Increased Retail	4%	17
Open Space and Landscaping	4%	20
Family Friendliness	5%	22
Increased Safety	5%	23
Increased Local Business	6%	29
Pedestrian Improvements	9%	39
Increased Attractions	10%	47
Improved Roadways and Parking	11%	52
Increased Mixed Use	15%	67
Increased Bars and Dining	17%	76
		456

4. Detailed Transcription of Public Meeting Comments

SDMP Public Discussion – October 7, 2021

Attendees

- 29 people counted; 24 signed in. See sign-in sheet with list of names.

General Takeaways

- Overall support for vision, but want to make sure that this plan accounts for the needs of people already living in the District
 - Housing was one of the biggest concerns.
 - Affordable, high-quality housing to meet a variety of needs
 - Potential displacement of current residents by new development
 - Pragmatic concerns such as maintenance are considered
 - That this plan and the projects within the plan are self-sustaining,
 - Public input, outreach, and transparency should be ongoing as these projects are realized
- Next Steps – revise the draft Plan to reflect these priorities

Large Group Discussion

- Communication/ Public Input: some residents expressed the view that they have not been consulted in the planning processes
 - City communication – difficult to reach – limited public involvement in plans
 - Communicate with residents, don't transform areas people use (referring to the fire station project)
 - Fire Station project was poorly implemented with no communication to residents
 - Construction has been a nuisance for the neighborhood, public wasn't informed
- Online Survey
 - The online survey response was small and doesn't reflect the entire city or the district residents
 - Survey responses – should pay most attention to people living in the district who will be most affected by the plans
- District project limits and concept
 - Include Prospect Ave – importance of transit center to downtown tourism, first impressions, multi modal access
 - Liked high concept of the overall plan
- Stadium
 - Baseball stadium needs a facelift – blank face to street; ease of access, 'standard State project'
 - Baseball boosters – **look for letter from City**
 - Attractions will bring people to the stadium - sports coupled with fun activities/attractions
 - Consider quality of life for residents on Game Day
 - Comparison to Yankee Stadium area – not nice to live in places with too much sports related volume of people
 - Youth baseball
- Housing
 - Ensure that displaced people have first choice of housing in the area – ensure a plan for no displacement
 - Repurpose large lots like USPS
 - Empty warehouses can be converted to housing
 - The last thing Binghamton needs is more luxury housing
 - What percent of affordable housing will be rental vs. owner occupied?
 - Henry Street: what can be done about poor-quality housing?
- Maintenance
 - What exists in district is not maintained – how will this change?
 - Prioritize ease of maintenance
 - Abandoned properties left standing
 - Enforce property maintenance laws already in place
 - Consider long-term city staffing
- Safety / Security



WHITHAM

PLANNING DESIGN LANDSCAPE ARCHITECTURE, PLLC

- ‘Murder House’ – Henry and Carroll
- Residents have witnessed shootings and bullets shot through residential windows
- People living there have experienced violent events
- Concerned about visible drug sales in the neighborhood
- Dixie Hotel is very concerning; worry about kids in area being near registered sex offenders
- High visibility crosswalks, pedestrian-activated lights
- Parking
 - Do not make Pine St. two-way and retain on-street parking on both sides.
- Streetscape
 - Bike lane on Henry
 - Bike lane on street instead of sidewalk
 - Keep street trees, add more
 - Sidewalk dining can inhibit accessibility
 - Garbage cans, gender neutral bathrooms
 - Public electric car charging stations
- Weather
 - Take into consideration that Binghamton’s climate can be harsh and make materials and furnishing choices accordingly
- Parks and Open Space
 - Make parks destinations
 - Under bridge – covered park – play basketball, skating rink, lit at night
 - Green walls
 - Do more in Centennial Park
 - Outdoor ice rink
- Stores and Destinations
 - Plan builds describes assets, but assets like BCPL are currently for the poor
 - Grocery store – critical need
 - Bookstores, coffee shops, drug stores, need conveniences downtown that are walkable
 - Drug store – downtown CVS is closing – critical need
 - Post Office – how long will it be operational? How to retrofit/ use this lot?
 - Library is an important asset – used most by poor people who have no access otherwise
- Technology
 - Free WiFi
- Identity
 - History – banners/plaques/interpretation
- Development
 - Consider making Henry completely commercial
 - Develop empty lots
 - Piecemeal development won’t work

Post It Comments (verbatim)

Board 1

- Bike lane on street instead of sidewalk
- Bookstores, coffee shops, drug stores, need conveniences downtown that are walkable
- Ensure that displaced people have first choice of housing in the area – ensure a plan for no displacement
- Sidewalk dining can inhibit accessibility
- Repurpose large lots like USPS
- Consider long-term staffing
- Communicate with residents, don’t transform areas people use
- Consider quality of life on Game Day
- Grocery stores, wiffle ball games, banners, and historic highlights
- Attractions to draw people

- Sports coupled, fun attractions (?)
- Bus station extension to Lewis Street
- How will improvements be maintained?
- Safety, security, bad weather, and parking
- High visibility crosswalks, pedestrian-activated lights
- Bike lane on Henry
- Outdoor ice rink
- Garbage cans, gender neutral bathrooms
- Current food desert
- Displace Dixie residents only
- Former Sheon, grocery store, supermarket
- Plan builds on assets, but assets like BCPL are currently for the poor
- Survey doesn't reflect entire city, ensure affordable availability, Fire Station project developed badly with no communication to residents
- How was outline defined? Prospect Ave not included, first thing visitors see from bus station, in poor shape
- Likes high level concept look and feel, ease of maintenance is important

Board 2

- Make more use of stadium
- The last thing Binghamton needs is more luxury housing
- Empty warehouses can be converted to housing
- Reinforce retaining wall between Henry and Pine
- Pine Street needs street parking
- Keep street trees, add more
- What percent of affordable housing is rentable vs purchasable?
- Youth baseball
- Public electric car chargers
- Development of city parcels prioritize housing
- People that live here are the priority
- Henry Street: bringing in shops, anything we can do about poor quality homes?
- Not many locals living on one side of Henry, shootings
- Consider making Henry completely commercial



Binghamton Baseball Booster Club
211 Henry Street
Binghamton, NY 13902
[Bbboosters.wordpress.com](http://bbboosters.wordpress.com)

Mayor Richard David
38 Hawley Street—Suite 4
Binghamton, NY 13901
August 14, 2021
Dear Mr. David:

On behalf of the entire Binghamton community, the Binghamton Baseball Booster Club, an organization of baseball enthusiasts with approximately 100 members, would like to suggest the following ideas **as part of your Stadium District Plan**. The following ideas are low-cost initiatives and complement our area's rich tradition in minor league baseball:

- **Rename the part of Lewis Street that borders MIRABITO STADIUM to reflect a baseball theme.** This could become a community project, with a contest offered by the Mayor's office. Some suggestions—Rumbletown Road, Binghamton's Baseball Boulevard, Diamond Drive, etc.
- **Provide banners for the street lights on Lewis Street**, much the way banners welcome visitors to Binghamton on the western end of Court Street. The city use Plaques of members of the Binghamton Baseball Shrine as the design of the banner and could include such former area players as Jacob deGrom, Whitey Ford, Thurman Munson, David Wright.
- **Adorn the street's light poles with lights that are shaped like baseballs**
- **Work with area businesses to close off Fayette and Lewis Streets on selected game nights** to include such things as craft and food festivals, perhaps with a baseball theme. These nights could use such major league stadia as Fenway Park and PNC Stadium (Pittsburgh) as examples, as these stadia turn surrounding streets into extensions of their respective concourse.
- **Turn existing empty brownfields on Lewis Street** (i.e., one opposite parking lot and one opposite Amici's) **into small parks with a baseball theme.** For example, the corner lot across from Amici's could be turned into a Whiffle Ball Park and fans could be encouraged to play Whiffle ball on those selected theme nights when Lewis and Fayette Streets are closed.
- **Provide banners that highlight a walking path from the downtown hotels to the ballpark.** These banners could expand on the short obelisks that adorn the Two-Rivers Walkway that borders the Chenango River. The banners could link the Walkway with the rest of Binghamton

by honoring some of those persons who have played a key role in Binghamton's baseball history.

- **Revive the Carousel Circuit (prize awarded to those riding all six area carousels) and include MIRABITO Stadium as a stop on the circuit**, encouraging visitors to view the concourse plaques honoring Binghamton's Shrine members.

These are all ideas that we think could be implemented relatively quickly as well as complement the improvements that are more costly and time consuming (i.e., tear down of properties, construction of housing/restaurants, etc.). We'd be happy to meet with you to discuss these ideas in more detail at your convenience!

Congratulations on coming up with the idea of the Stadium Development Master Plan; we look forward to seeing its completion!

Sincerely,

The Binghamton Baseball Boosters

5. Project Matrix

