

CHAPTER 3

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THE TRANSPORTATION SYSTEM

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THE TRANSPORTATION SYSTEM

INTRODUCTION

This chapter provides a description of the existing transportation system in Tompkins County and identifies future challenges and initiatives. For more than a decade the transportation system in Tompkins County has been evolving to provide a menu of options for the traveling public. The private automobile continues to be the dominant mode of transportation. This condition is expected to extend into the future, however, as of 2019, surface transportation options to the private automobile in Tompkins County include walking, bicycling, transit (TCAT/Gadabout), intercity bus service, taxi, car rental, car sharing, bike sharing, ridesharing/ carpooling and ride hailing. The ITCTC and its transportation sector partners recognize the importance of continuing to expand transportation options that reduce automobile dependency and drive alone trips.

Infrastructure can be defined as the basic facilities, equipment, and installations needed for the functioning of a system. This chapter describes the existing capital transportation infrastructure including roadways, bridges, the transit system, intercity bus service, pedestrian and bicycle facilities. In addition, transportation related programs and initiatives are also mentioned as they play a key role in informing/educating and providing more options for the traveling public.

The existing transportation system in Tompkins County directly impacts the accessibility components of the LRTP Goals—mobility, connectivity, proximity. The layout and operation of the metropolitan transportation system also affects the sustainability components—environment, quality of life and equity—of the plan's goals.

The primary focus areas of connectivity in Tompkins County are the different transportation networks, including roads, bridges, transit, pedestrian, etc., that help to move people and goods in our community. A well-connected region has transportation networks with many links, numerous modal options, and minimal service dead-ends. Connectivity is related through land use to the proximity of trip origins and destinations. Improved connectivity with greater proximity result in greater mobility potential.

Mobility is enhanced by the integration of different strategies such as, congestion mitigation, transportation demand management (TDM), transportation system management, access to alternative travel modes, freight movement and intermodal links. These strategies help the transportation system operate more effectively and efficiently. This, in turn, relates directly to the environmental impacts from the transportation sector. All programs and projects need to be deliberate in their implementation and analysis of impacts to ensure meeting the equity goals of the LRTP.

Also included in this chapter are safety and financial elements as required by federal regulations. Safety and emergency management programs are identified and their relationship to transportation is described. The financial elements address the Federal requirement for a financial plan. The section estimates financial federal resources, along with their state and local contributions, available for the development, operation, and maintenance of the transportation system and demonstrates how the long-range transportation plan is fiscally constrained.

While this chapter touches on the topics listed above, the reader should be aware that substantial overlap does exist. Transportation issues are critically interconnected with activities in the areas of land use, housing, watershed protection, agriculture, economic development, etc. This plan focuses attention on transportation but the interdependency of transportation with other sectors cannot be overstated.

Even as we work towards a future of reduced car dependency it is understood that the transportation system is, and will continue to be, heavily dependent on cars and trucks for the movement of people and goods. The road/bridge infrastructure in Tompkins County is a valuable existing asset that needs to be maintained for use by all modes of transportation in an increasingly complex transportation system.

Metropolitan Transportation System

Federal regulations state that the long-range transportation plan shall, at a minimum: "Identify existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities, and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions" (23 CFR§450.324.f(2), June 2, 2014). One of the functions of this section will be to meet this legislative requirement.

ROADWAYS

Highways and bridges form the backbone of the transportation system. These are used by all modes – automobiles, trucks, buses, bicycles, pedestrians, etc. Their adequate maintenance is critical to ensure safe and efficient movement of goods and people.

FEDERAL AID ROAD SYSTEM – DESCRIPTIVE STATISTICS

FUNCTIONAL CLASS	CENTERLINE MILES	PERCENT	FHWA GUIDELINES
URBAN ROADWAYS		% Urban	
URBAN PRINCIPAL ARTERIAL - FREEWAY	10.04	3.25%	
URBAN PRINCIPAL ARTERIAL	15.65	5.06%	
TOTAL URBAN PRINCIPAL ARTERIAL	25.69	8.31%	5-10%
URBAN MINOR ARTERIAL	49.17	15.91%	
TOTAL URBAN ARTERIAL	74.86	24.22%	15-25%
URBAN COLLECTOR	46.64	15.09%	5-10%
URBAN LOCAL STREET	161.89	52.38%	65-80%
RURAL ROADWAYS		% Rural	
RURAL PRINCIPAL ARTERIAL	28.67	2.90%	2-4%
RURAL MINOR ARTERIAL	51.78	5.24%	
TOTAL RURAL ARTERIAL	80.45	8.14%	6-12%
RURAL MAJOR COLLECTOR	123.35	12.48%	
RURAL MINOR COLLECTOR	82.94	8.39%	
TOTAL RURAL COLLECTOR	206.29	20.87%	20-25%
RURAL LOCAL ROAD	701.83	71.00%	65-75%
TOTAL	1,271.96	100%	

2010 System (based on 2010 Decennial Census)

ROADWAY DESIGN

Roadway design can influence how transportation corridors operate: i.e. are they safe for non-motorized modes? Do they facilitate the provision of transit? What land uses are best suited for the road type? Therefore, one can expect the roadway design on a rural road to differ significantly from that in an urban area.

Within urbanized areas there are many different settings: main streets, residential neighborhoods, commercial districts, etc. In each of these, roadway design can play an important role on the land development patterns of adjacent properties. Designing a road as a single-mode automobile oriented commercial arterial, for example, will result in single-use development, large parking lots, and a road that is unfit for anything but driving. Walking and bicycling become inconvenient and unsafe, and with dispersed development, transit is less efficient.

In contrast, a different road design can welcome pedestrians and bicyclists without losing capacity while allowing for mixed use development of adjacent properties. In cases like these, road design can be the catalyst to help move away from sprawl development to a smarter, more efficient land use development pattern.

Road System Summary

- Tompkins County is served by a network of roads that extends approximately 1,400 miles
- County and municipal roadways comprise 80% of the roadway miles
- State Roads comprise 13% of road miles
- Overall vehicle miles of travel in Tompkins County total approximately 1,977,000 miles daily (Source: NYSDOT)

ROAD SYSTEM BY ROUTE TYPE

ROAD TYPE	CENTERLINE MILES	PERCENT OF TOTAL MILES
STATE ROADS	180.3	12.9%
COUNTY ROADS	302.7	21.6%
TOWN ROADS	648.4	46.4%
CITY STREETS	61.5	4.3%
VILLAGE STREETS	77.5	5.5%
INSTITUTIONAL STREETS (CU, IC, TC3)	21.8	1.6%
PRIVATE ROADS	63.4	4.5%
ABANDONED / VACANT	0.3	0.0%
NO INFO / NO PUBLIC ACCESS	42.6	3.1%
TOTAL	1,398.5	100%

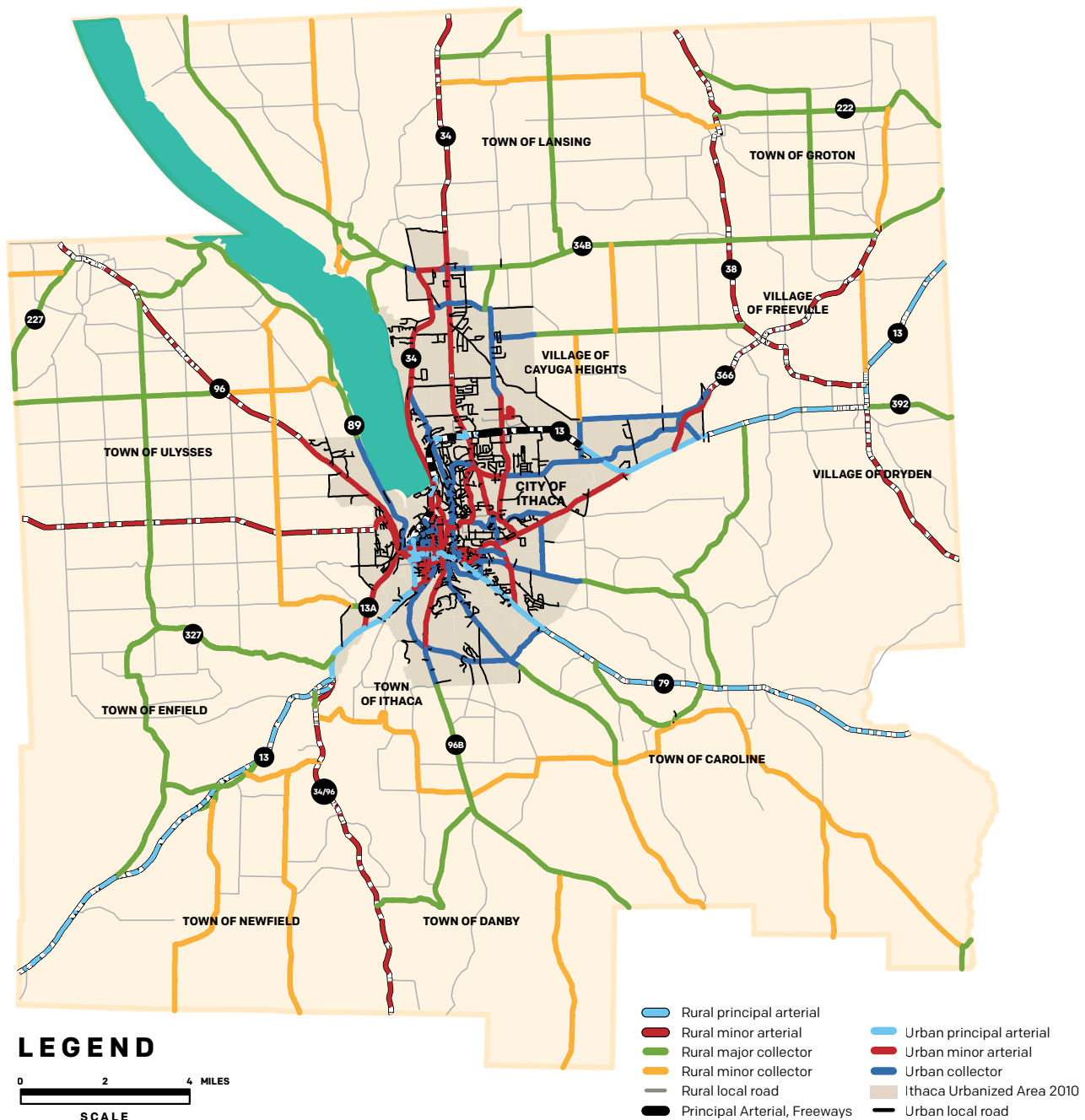
Source: Tompkins County Road Centerline File



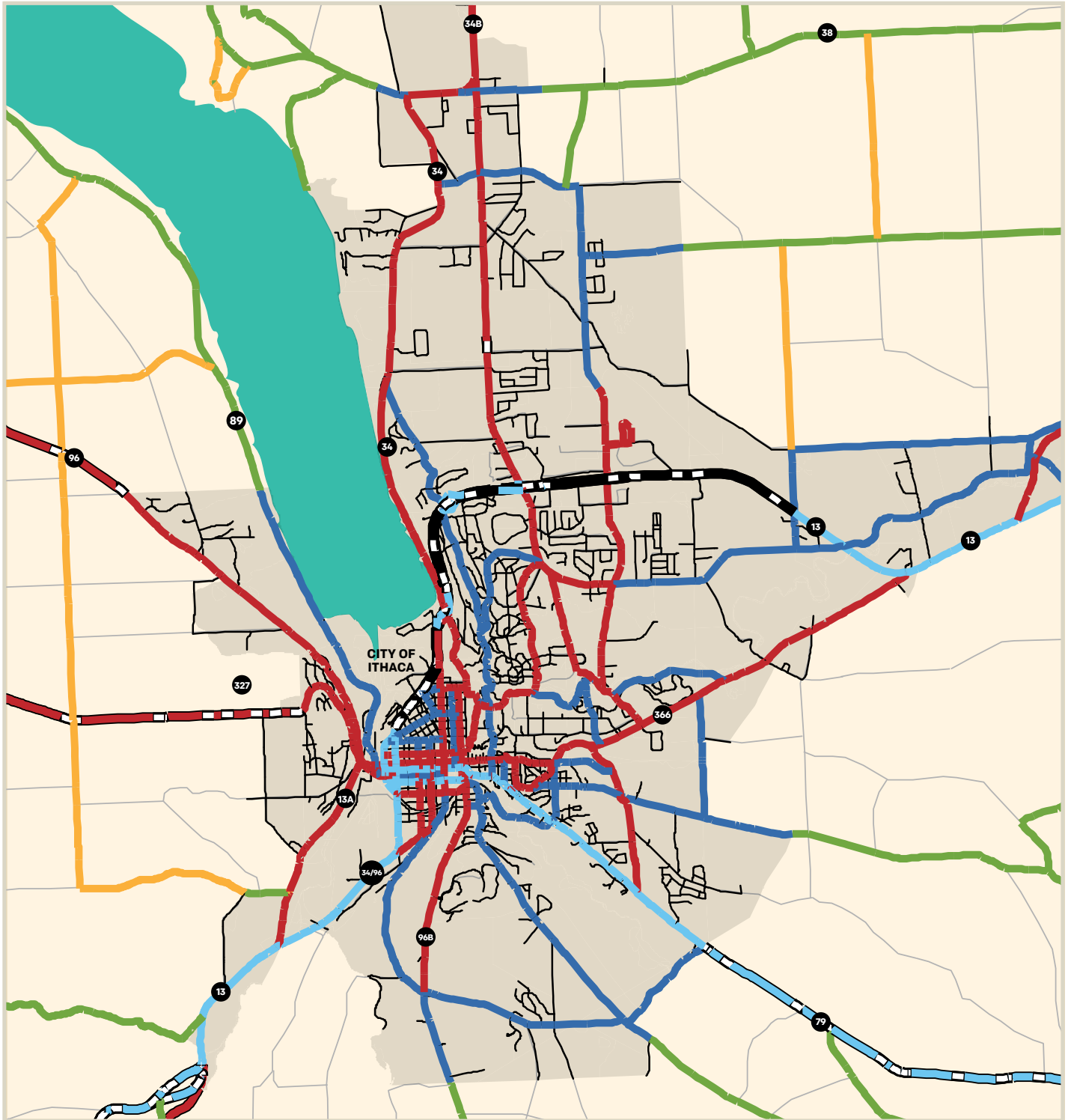
FUNCTIONAL CLASSIFICATION SYSTEM MAP

- The Highway Functional Classification System includes a network of roads providing connectivity to the most important trip origins and destinations.
- This functional classification scheme is legislatively required as a prerequisite to the use of federal transportation funds.
- Functionally Classified roadways are eligible for federal aid.
- Rural minor collectors and local roads are not eligible for federal aid funding.
- Tompkins County has two principal arterial roadways, which are also the only Tompkins County roadways included on the National Highway System (NHS): all of New York State Route 13 and SR-79 from SR-13 southeast to Tioga County.

2010 TOMPKINS COUNTY HIGHWAY FUNCTIONAL CLASSIFICATION SYSTEM COUNTY WIDE



2010 TOMPKINS COUNTY HIGHWAY FUNCTIONAL CLASSIFICATION SYSTEM URBANIZED AREA



LEGEND



- | | |
|------------------------------|----------------------------|
| Rural principal arterial | Urban principal arterial |
| Rural minor arterial | Urban minor arterial |
| Rural major collector | Urban collector |
| Rural minor collector | Ithaca Urbanized Area 2010 |
| Rural local road | Urban local road |
| Principal Arterial, Freeways | |

BRIDGES

- Due to its topography, Tompkins County roadways include numerous bridges.
- There are 199 bridges plus seven pedestrian-only bridges in Tompkins County for a total of 206 (source: NYSDOT). Of these, 54 are under state jurisdiction (NYSDOT), 136 are locally owned. The remaining 9 are owned by 'other' parties; five by Cornell University, four by NY State Parks.
- NYSDOT performs periodic inspections of all bridges.
- 'Structurally Deficient' bridges are candidates for rehabilitation work or replacement. A 'Structurally Deficient' rating does not mean a bridge is unsafe. A bridge that is considered unsafe would be closed to further use.
- The ITCTC recognizes the importance of bridge maintenance as a critical factor in having a safe and efficient transportation system. Over the years numerous bridge projects have received funding through the TIP. The ITCTC will continue to include bridge maintenance as an important component of project development efforts.

BRIDGE CONDITION RATINGS EXPLAINED

Bridge condition ratings are assigned on a scale from 3 to 9, where 9 is excellent. The scale uses a weighted formula that accounts for several structural components of a bridge: deck condition, superstructure condition and substructure condition. Bridges that score 4 or less for any component are considered 'Structurally Deficient'.



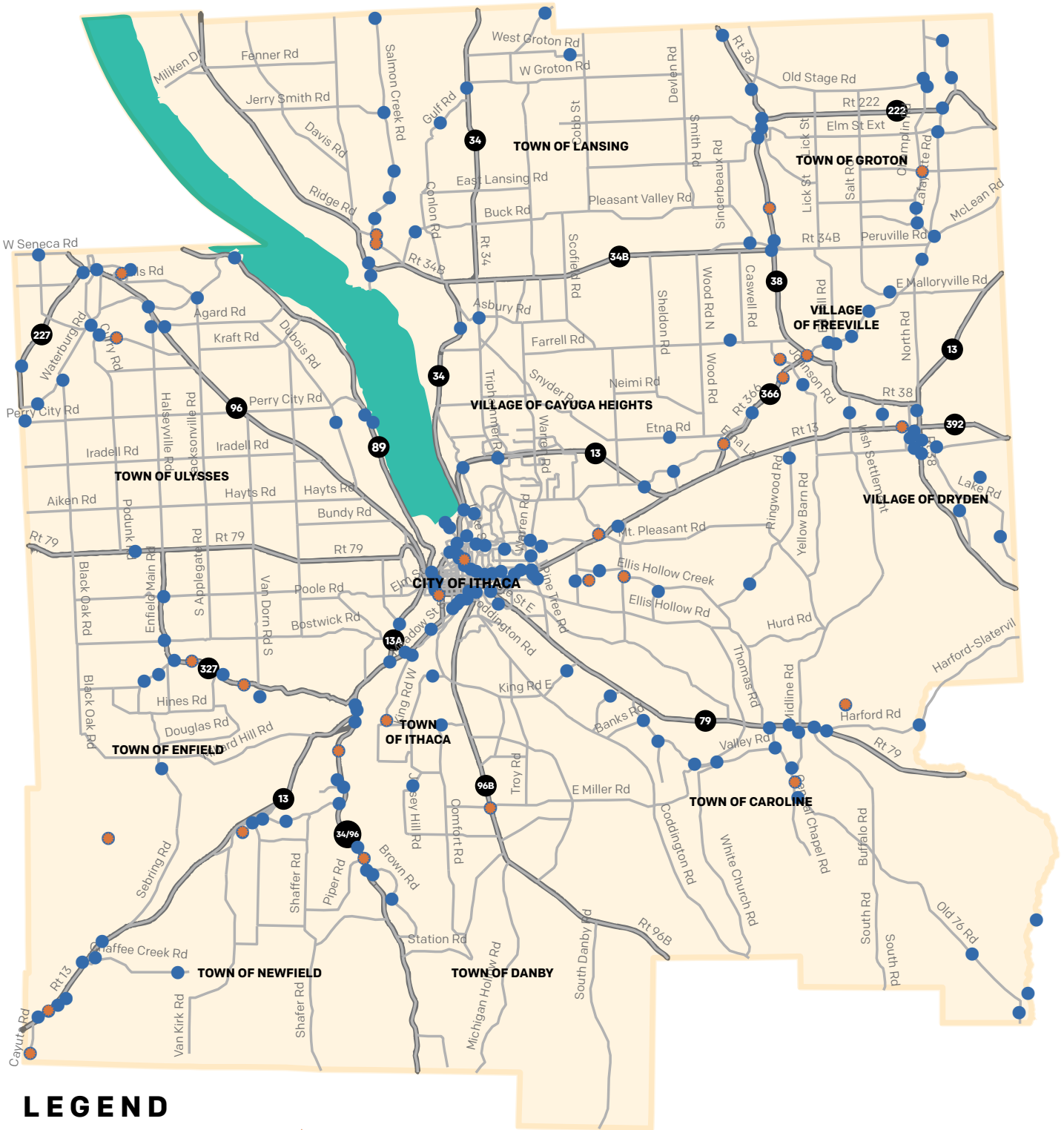
2017 BRIDGE CONDITION

OWNER	TOTAL NUMBER	NUMBER STRUCTURALLY DEFICIENT	% STRUCTURALLY DEFICIENT
STATE	54	8	15%
LOCAL	141	20	14%
OTHER	9	2	22%

Source: NYSDOT

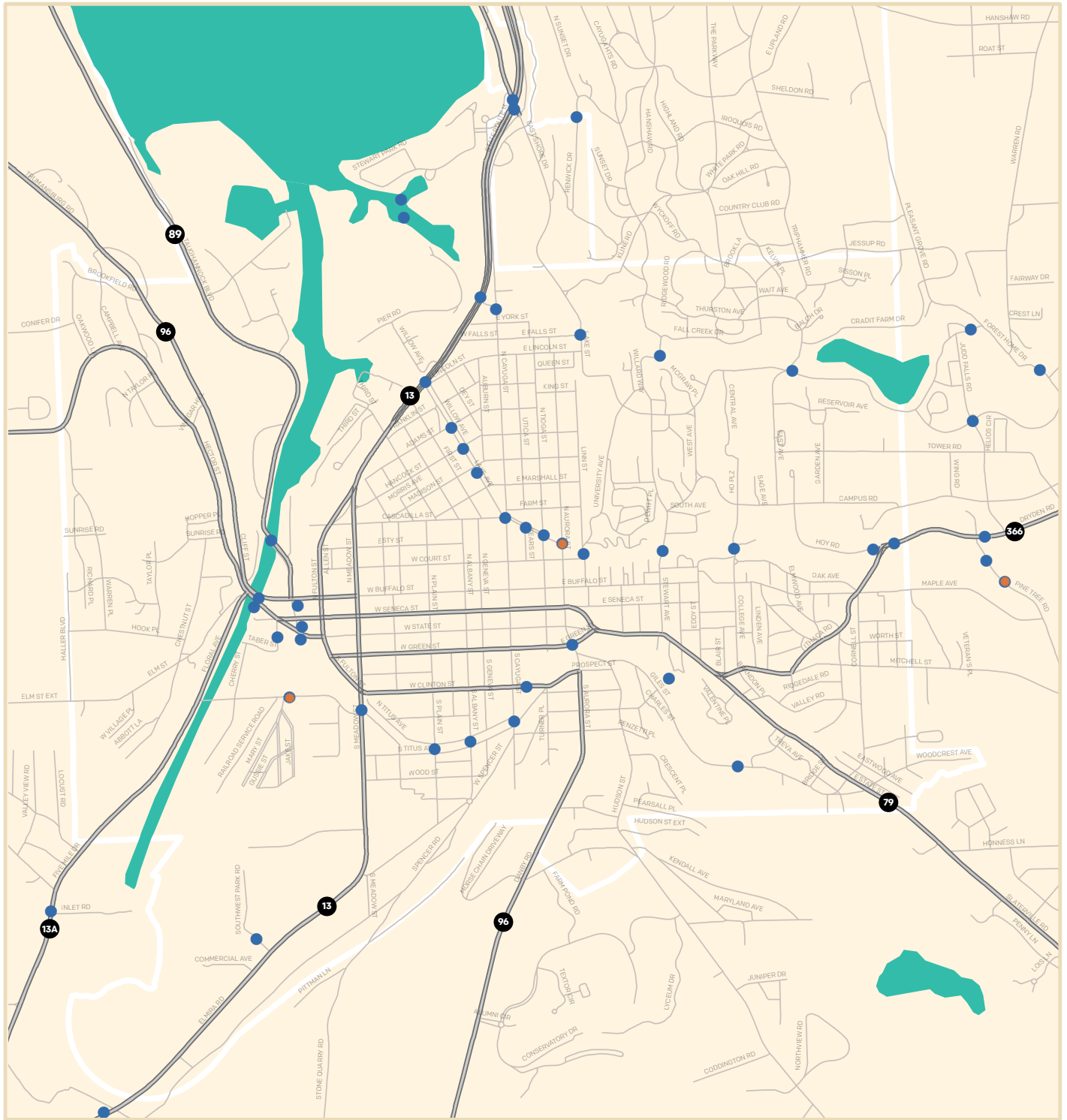


LOCATION OF STRUCTURALLY DEFICIENT BRIDGES TOMPKINS COUNTY



NOTE: per NYSDOT If Deck, Superstructure or Substructure has an inspection rating of 4.0 or less

STRUCTURALLY DEFICIENT BRIDGES ITHACA URBANIZED AREA



LEGEND



-  DEFICIENT BRIDGES 2017
-  BRIDGES

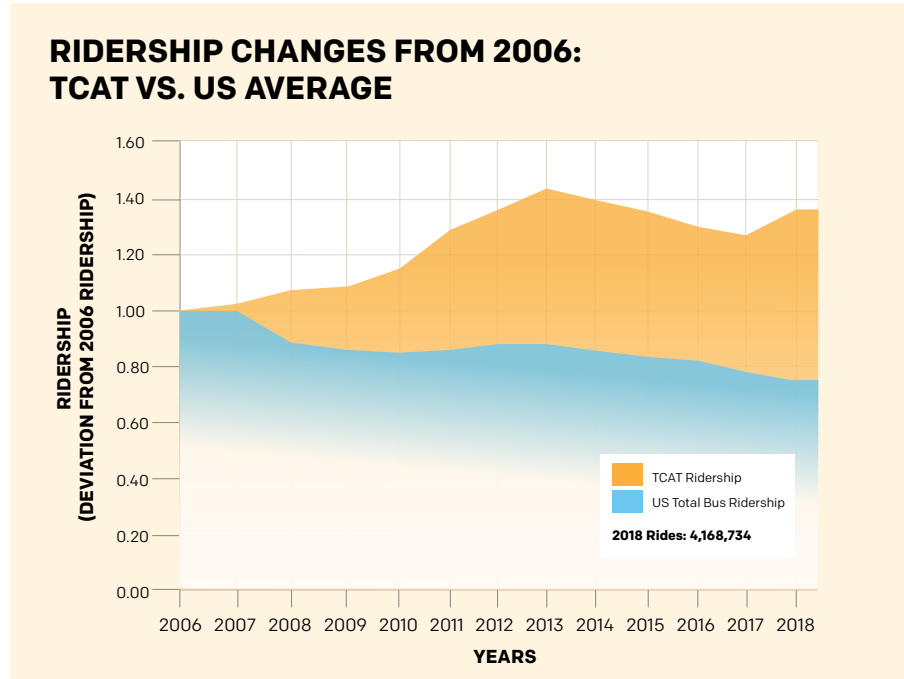
NOTE: per NYSOT If Deck, Superstructure or Substructure has an inspection rating of 4.0 or less

Prepared by the Ithaca-Tompkins County Transportation Council - 4/30-19

TRANSIT

Existing Conditions:

- Public transit service in Tompkins County is provided by Tompkins Consolidated Area Transit (TCAT) - www.tcatbus.com.
- TCAT contracts with GADABOUT Transportation Services, Inc. for demand responsive paratransit service required by the Americans with Disabilities Act (ADA paratransit).
- TCAT operates in every town in Tompkins County.
- Nearly 62% of Tompkins County residents live within one quarter (¼) mile of a bus route, with 88% for urban and 31% for rural populations.
- TCAT uses approximately 53 buses to operate service on 33 routes (including one summer-only route and one 'demand and response' route) with a diverse range of schedules for academic year, summer and yearlong service.
- TCAT service is affected disproportionately by congestion - just a few minutes delay per trip can cause operational costs to go up as they are forced to add another bus and driver to maintain the existing level of service.
- TCAT changes its service three times per year and continually analyzes ridership, route timings and service change requests.
- The principal activity nodes are Downtown Ithaca, Collegetown, Cornell University, and the Shops at Ithaca Mall.
- TCAT ridership increased in 2018 (4.1million) after four years of reductions from its peak ridership of 4.4 million in 2013.
- TCAT continues to face funding shortfalls for timely bus replacement and operations.
- More information in the TCAT annual reports: www.tcatbus.com/about/ridership-and-statistics/

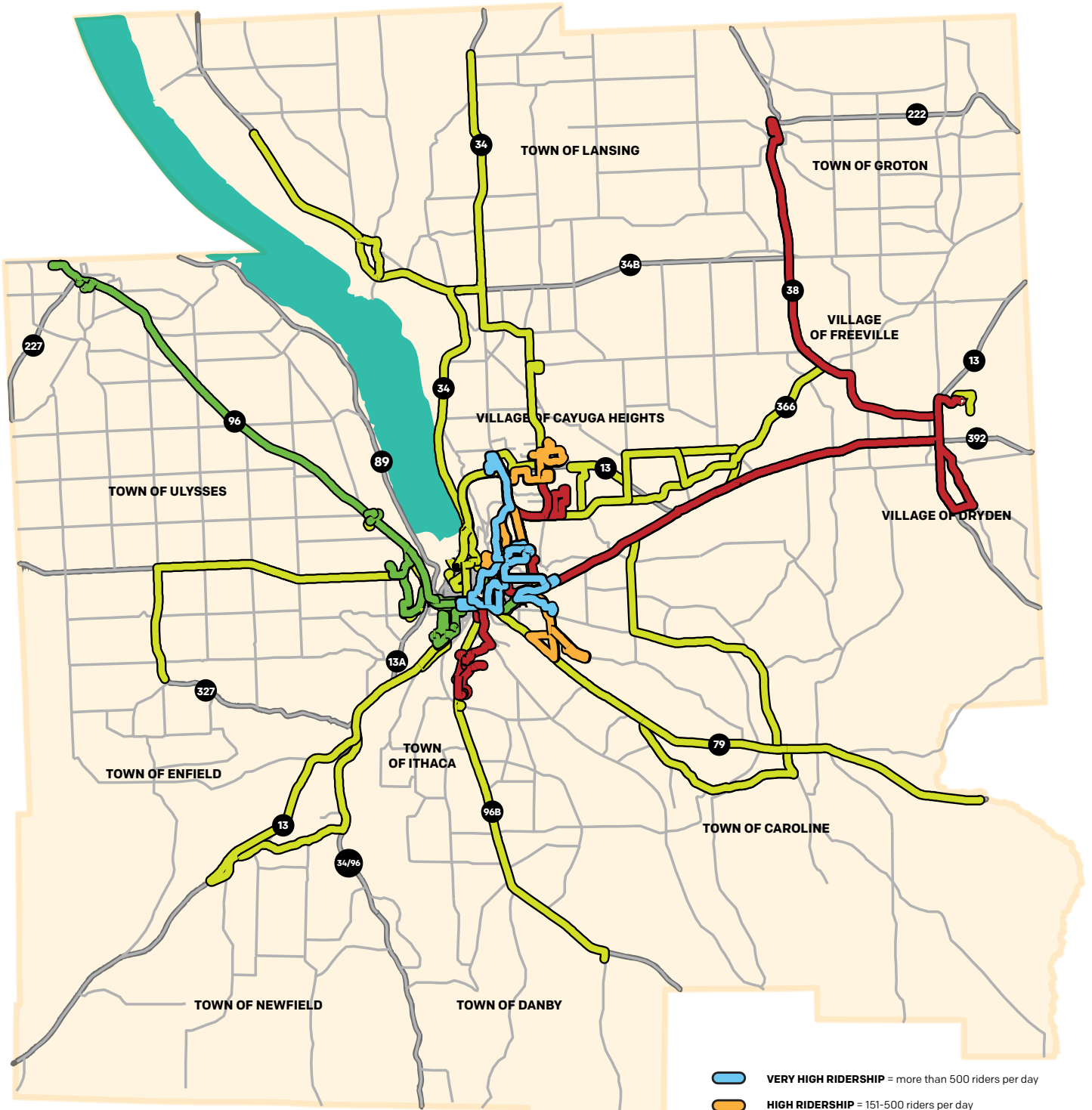


There is a clear demand for an expanded role for transit in Tompkins County based on ridership expectations, mobility needs and environmental and energy use community goals. To provide any realistic opportunity of advancing this vision, TCAT will need significant and continuous additional funding, which may require an entirely new paradigm of how the community selects and funds its priority transportation options. The ITCTC will continue to work closely with TCAT and other community partners to support high quality public transportation for Tompkins County. For more about TCAT see TCAT’s 2018-2030 Strategic Plan at <https://www.tcatbus.com/about/mission-vision/>.

Transit needs over the next 20 years–

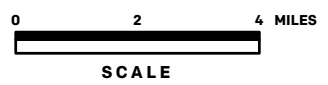
- Build a transit center in a new location that can accommodate an increased fleet size to meet growing demand for bus service in Tompkins and surrounding counties.
- Electric bus infrastructure to support a fully electric fleet in the future.
- Developing/enhancing park and ride facilities;
- Implementing/enhancing communication technologies to improve service and passenger experience;
- Updated fare collection system to automate fare accounting;
- Additional and renovated passenger shelters to increase accessibility, security and ease of use;
- With the aging population, the demand for mobility services (transit and paratransit) for seniors is expected to increase significantly;
- Implementation of new services such as on-demand routes, bus rapid transit (BRT), etc.;
- Like many other transit agencies, TCAT faces funding shortfalls for timely bus replacement and operations. Neither federal nor state capital assistance programs are adequate to the task, particularly in a transit intensive community like Tompkins County. In addition to rolling stock, there will be substantial capital facility need to be addressed in the next twenty years;

TCAT BUS ROUTES - 2018 TOMPKINS COUNTY

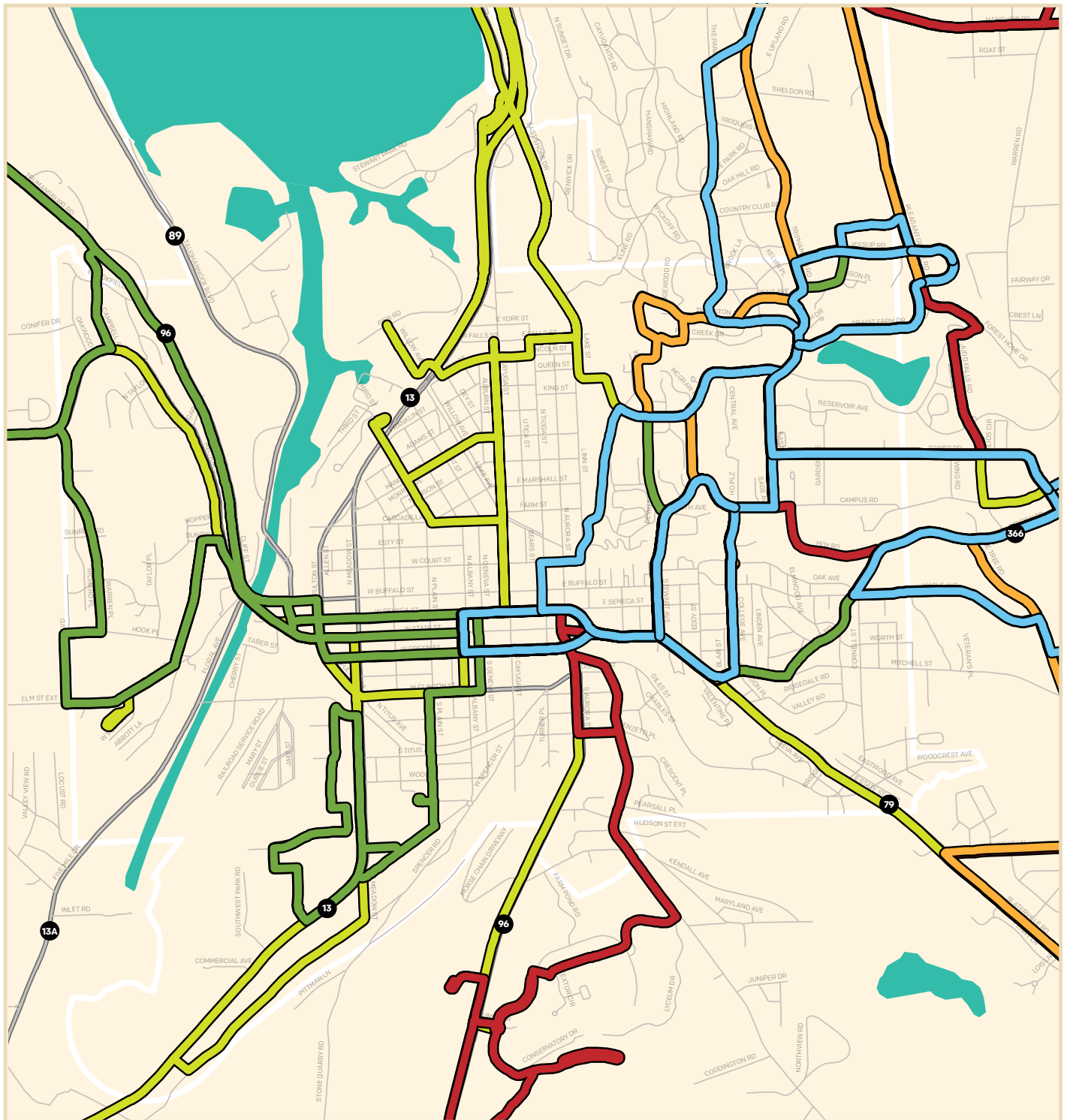


- █ **VERY HIGH RIDERSHIP** = more than 500 riders per day
- █ **HIGH RIDERSHIP** = 151-500 riders per day
- █ **MEDIUM RIDERSHIP** = 101-150 riders per day
- █ **LOW RIDERSHIP** = 51-100 riders per day
- █ **VERY LOW RIDERSHIP** = 1-50 riders per day

LEGEND



TCAT BUS ROUTES - 2018 ITHACA URBANIZED AREA



LEGEND



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PARATRANSIT

- GADABOUT Transportation Services, Inc. provides wheelchair accessible, demand responsive service for people over 60 years of age and persons with disabilities in Tompkins County.
- GADABOUT Transportation Services, Inc. was developed in 1976 and re-organized as a non-profit transportation corporation in 1981. Provides paratransit services under agreement with TCAT.
- Fleet size as of 2019 is 27 vehicles. System operates best with 30-31 vehicles.
- GADABOUT completes approximately 55,000 trips per year.
- Combines use of paid and volunteer drivers.
- GADABOUT's administration and operations center and paratransit buses are based and maintained at TCAT's transit facility.
- Over the next twenty years, with the aging population, the demand for mobility services for seniors is expected to increase significantly.
- Automating dispatch and communications, acquisition of additional vehicles and driver staffing will be important priorities in the near- and long-term.

SHARED TRANSPORTATION

Shared transportation other than public transit used to consist exclusively of taxi service. Thanks to advances in wireless communication and computer technologies the last 15 years have seen an explosion of shared transportation options. Several services are currently present in Tompkins County. This is a transportation sector that is rapidly evolving and will have significant impacts to traveling decisions for residents and visitors to the area.

Ithaca Carshare

Local non-profit with the mission of enhancing community access to transportation while reducing negative environmental and economic impacts of car use. Ithaca Carshare is closely aligned and supportive of the public transit system. Ithaca Carshare is a membership service offering 24/7 self-serve access to approximately 26 vehicles. www.ithacacarshare.org

Transportation Network Companies (TNC)

Also known as ride-hailing services. Currently there are two private companies offering service in the Ithaca area – Lyft and Uber. Service has been available since mid-2017.

Taxi

As of 2019 there were approximately 9 taxi companies offering service in the Ithaca-Tompkins area. This is a rapidly changing service with numerous startups and closures.

Limousine and other private services

There are several private companies offering limousine and other private transportation services. These companies focus on airport connections, others on tours/tourism travel and private events.

Finger Lakes Rideshare

This service offers a web based interface for persons offering and seeking rides. The goal is to facilitate carpooling for one-time rides and also for recurring trips or work commute trips. www.fingerlakesrideshare.org

Bikeshare

Starting in April 2018 and continuing through 2019, bikeshare services have been offered in Tompkins County by Lime. The service launched successfully in the City of Ithaca and expanded to several villages in Tompkins County, as well as in neighboring counties.

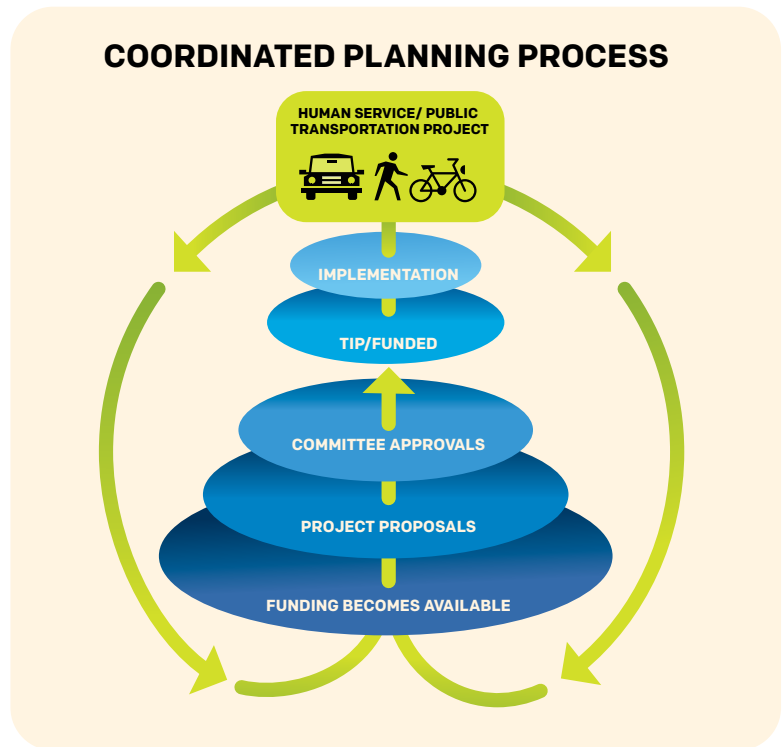
Scooters

Scooter shared rentals are under consideration by the City of Ithaca as of 2019.

COORDINATED PLAN

The Tompkins County Department of Social Services and ITCTC have worked cooperatively to develop the Coordinated Public Transit - Human Services Transportation Plan for Tompkins County (Coordinated Plan www.tccoordinatedplan.org/). This planning process is used to identify and fund mobility services targeted to low income persons and special needs populations.

- The Coordinated Plan is required under the Federal Transit Administration’s program for enhanced mobility of seniors and individuals with disabilities.
- FTA considers the coordinated planning process as a best practice for developing mobility management and job access operating assistance projects.
- Under the Coordinated Plan, human services and transportation agencies work together to identify resources (federal and otherwise), service gaps, and annual project priorities to improve community mobility, increase the capacity of providers to supply more service, and to increase the efficient delivery of transportation for human service needs.
- The County’s Mobility Management program, in the Department of Social Services, coordinates project implementation. Federal transportation funds programmed through the Coordinated Plan process are included in the ITCTC Transportation Improvement Program and receive additional review through that process.
- The ITCTC will continue to work with its local partners to implement and maintain the Coordinated Plan process. The Coordinate Plan process is an important example of collaborative planning in the transportation sector in Tompkins County.



INTERCITY BUS SERVICE

- The Ithaca area has a substantial amount of intercity bus service. In some cases, Ithaca serves as a stop between cities, i.e. Rochester to New York City. In other instances, service originates locally. Cornell University and Ithaca College both draw students from a large regional area and generate much of the demand for intercity bus travel.
- The Ithaca intercity bus station closed in 2018. Currently intercity buses are accommodated on an interim basis in the 100 block of E. Green Street, sharing space with TCAT buses. The City of Ithaca is actively planning and considering other locations to best accommodate intercity buses.
- At its interim location intercity bus passengers have easy access to many services in downtown Ithaca, along with ready connections to TCAT, carshare vehicles and bike share.
- Intercity bus service in Tompkins County as of 2019 includes four commercial carriers – Coach USA, Ourbus, Trailways and Greyhound - with approximately 19 to 23 buses per day depending on day of the week and season.
- Intercity bus service is variable. Announcements of new bus service and service cancellations are common.
- Most commercial bus service from Ithaca is to New York City, approximately 16 buses per day.

INTERCITY BUS DEPARTURES FROM ITHACA AS OF NOV. 2018

PROVIDER	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
COACH USA	10	10	10	10	11	11	9
OURBUS	4	3	2	2	2	4	2
TRAILWAYS	6	6	6	6	6	6	6
GREYHOUND	2	2	2	2	2	2	2
C2C	3	3	3	3	3	3	2
TOTAL	25	24	23	23	24	26	21

Number of buses per day-figures will vary

REGIONAL PUBLIC TRANSPORTATION

REGION	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
CORTLAND	2	2	2	2	2
ELMIRA	2	2	2	2	2
WATKINS GLEN	5	5	5	5	5
CORTLAND-DRYDEN	5	5	5	5	5
TOTAL	14	14	14	14	14

- Service to Owego, Binghamton, Scranton is offered as stops along the route to New York City, approximately 11 buses per day.
- Service to Rochester and Syracuse includes 2-3 buses per day.
- Service during university breaks and holidays usually exceeds regular service levels.
- Cornell University offers a Campus-to-Campus (C2C) bus service express to New York City 2-3 times per day.
- Intercounty public transportation is available to Cortland, Elmira area, Watkins Glen area.

MULTIMODAL AND INTERMODAL FACILITIES

Multimodal facilities refer to the accommodation of various modes of transportation. Intermodal facilities facilitate transfer/use between modes. All modes, including transit, bicycle and pedestrian facilities, are considered under the “multimodal” aspect of this section. To obtain the most efficient operation, transportation system users must be able to select the most appropriate mode for each segment of a trip and have safe and convenient transfer options. Invariably the transfer of people and goods within a transportation system will represent costs and time delays. The emphasis of intermodal planning is to provide users with the opportunity to choose between modes and provide them with the ability to transfer between them in a manner that minimizes costs and time delays.

The major intermodal (transfer) facilities in Tompkins County include: Ithaca-Tompkins Regional Airport, intercity bus facility, park-and-ride facilities, and the principal TCAT bus stops and stations.

Passenger Services

Connections to Bus Service

- TCAT’s public transportation system serves as the backbone for multimodal travel in Tompkins County. The system serves all intermodal facilities. Travelers routinely transfer at bus stops and stations between pedestrian, bicycle and transit modes. TCAT’s City Center bus stations on Seneca St. and Green St., adjacent to the Ithaca Commons, are the principal hubs in the transit system, providing a point of contact between multiple routes. The stops are located on opposite sides of the Ithaca Commons and are connected by excellent pedestrian accommodations.
- Other TCAT stops at Cornell and the Shops at Ithaca Mall also serve a substantial number of customers and function as important intermodal facilities.
- City Center bus stations have direct access to car share and bike share services.
- Currently, inter-city bus service connections are provided at Green St. adjacent to the TCAT bus stops. This allows for convenient transfers between services.
- All TCAT buses are equipped with bicycle racks. The Bikes on Buses program has been in place for many years and serves thousands of customers every year. This program allows riders to combine their bicycle trips with transit in those occasions where a bicycle-only trip is not possible.
- Tompkins County has a widespread network of 13 rural park and ride lots which receive a high level of use.

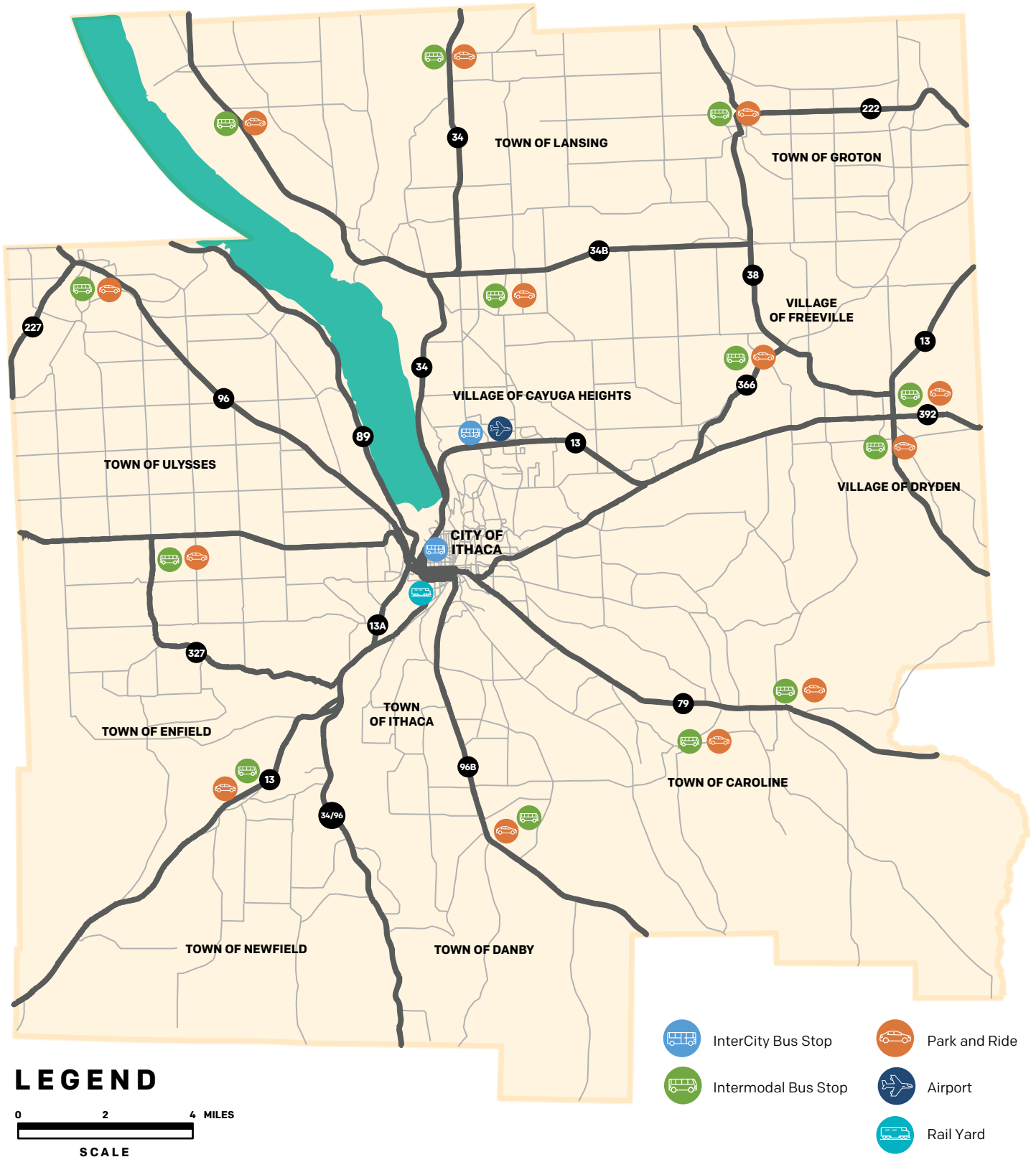
Other Private Sector Traveler Services

Taxi services, Limousine services, Car rental, and Transportation network companies (TNC)-currently Uber and Lyft.

Future Needs

- Continue to improve bus stops in ways that facilitate intermodal use. Projects may include: connecting bus stops to sidewalks, providing safe road crossings to reach bus stops (particularly in rural areas), providing bicycle parking, providing protected shelters, providing traveler information (next bus arrival time) – depending on the needs of individual stops.
- Rural service – implement initiatives to provide more cost-effective and convenient service to rural areas. Support pilot projects and trials that help identify effective solutions such as first mile-last mile connectors, on-demand or flex service, etc.
- Improve coordination between transportation providers to provide service enhancements that increase customer satisfaction – i.e. single payment systems, service frequency and quality, access to information, etc.
- Implement projects to reduce drive-alone commuter traffic – i.e. coordinate transit connections with neighboring counties, provide enhanced park and ride facilities, support ride sharing/carpooling programs, etc.

TOMPKINS COUNTY INTERMODAL FACILITIES 2018



Freight Movements

Freight movement in the Greater Ithaca-Tompkins County area must be addressed in a different manner than in larger metropolitan areas. This region does not serve as a major hub for the transport of goods, but rather serves mostly as a destination to which goods are brought. The area relies heavily on trucking for the movement of freight. Rail is used sporadically to transport materials to the Cayuga Power Plant. The railroad is also used to ship salt from the Cargill, Inc. salt mine in Lansing. A minimal amount of freight is flown into Tompkins County Airport and there are no specific plans to increase freight movement in this mode.

Tompkins County is served by a network of NY state roads that carry the bulk of truck traffic. Major freight destinations include downtown Ithaca, retail areas (i.e. Southwest Ithaca, NE Ithaca), Cornell University, Cargill Salt Mine, and various industrial parks. The ITCTC will work with NYSDOT and local governments to help implement projects and programs that lead to increased safety in freight movement and help mitigate the negative impacts of truck traffic in Tompkins County.

MAJOR FREIGHT GENERATORS AND MAJOR FREIGHT CORRIDORS IN TOMPKINS COUNTY



NON-MOTORIZED TRANSPORTATION FACILITIES

Active Transportation-Bicycle and Pedestrian Facilities

A fundamental policy position is that bicycling and walking are legitimate forms of transportation that must be incorporated in the design for transportation facilities and land use development. The Ithaca Urban area is well served with an extensive network of sidewalks and trails. Bicycling however continues to be the 'missing mode'. A few bicycle lanes have been installed in various municipalities and the Cornell campus, but they are not connected or part of a greater network. Creating a network of formal and coordinated on-road bike facilities will minimize the potential for conflict with motorized vehicles, thus making the system safer and more efficient for all modes. Together, the bicycle and pedestrian modes of transportation carry a significant percentage of the journey to work trips in Tompkins County (pedestrian = 14%; bicycling = 1.6%). These figures are significantly higher within urbanized areas, for example, in the City of Ithaca pedestrian = 36%; bicycling = 2.5%). To achieve most goals of the LRTP, every effort should be made to maintain and enhance the trip share of these alternative modes to the automobile.

Bicycle

The need to develop an integrated system of bicycling facilities is crucial. Various efforts have contributed to this end, but more work is needed.

- There are approximately 7 miles of dedicated bicycle lanes and 30 miles of multi-use trails in Tompkins County, mostly in the Ithaca urbanized area.
- The City of Ithaca adopted a Bicycle Plan in 1997. Much background and data work has been completed to help facilitate a plan update, possibly as part of a broader transportation plan for the city.
- The City of Ithaca has built a Bicycle Boulevard network that consist of about 3 miles of low-traffic and traffic-calmed streets in downtown Ithaca. In these streets, cyclist must share the travel lane with motor-vehicles.
- Bicycle parking is available throughout the Ithaca urban area, including the college campuses. However, more is needed at strategic origin and destination points. Covered and secure bicycle parking is also limited.
- The ITCTC produces a bicycling suitability map that is updated every two years – www.tompkinscountyny.gov/itctc/projects#bicyclemap.

2018 ITHACA BICYCLE USE AND ATTITUDES SURVEY

www.bikewalktompkins.org/blueprint

In February 2018, Bike Walk Tompkins and the Ithaca-Tompkins County Transportation Council commissioned the 2018 Ithaca Bicycle Use and Attitudes Survey. Over 300 randomly chosen residents were contacted to learn about their current bicycling use, their interest in bicycling, the barriers they face, and the infrastructure they would like to have available. The results show that there is a growing number of people bicycling, and a majority of people are interested in bicycling more often and want more bike infrastructure.

Principal Findings:

- 80% of survey respondents agree or strongly agree that bicycling is part of Ithaca's transportation mix.
- A majority of people (51%) are definitely or potentially interested in bicycling more often in and around Ithaca, while only 23% explicitly expressed disinterest in bicycling.
- 65% of non-student residents indicated that they would drive alone less often if they cycled more.
- The discrepancy between interest in cycling and current use means that there's a sizable group of people that would bicycle more often when their concerns are addressed. The City of Ithaca and Tompkins County could significantly advance multiple public policy goals by making bicycling a more desirable mode of transportation among the majority that is already interested in doing so.
- Main barriers to bicycling include hills and weather; unsure about bicycling skills; discomfort next to moving vehicles.
- Discomfort next to moving vehicles is the top barrier to bicycling in Ithaca that can be directly addressed, particularly through infrastructure improvements.
- Most people are most comfortable biking on protected bike lanes, traffic-calmed streets, and bicycle paths.
- It is necessary in and around Ithaca is that these types of facilities be part of a connected network.
- 77% of respondents agree or strongly agree that there should be more bike infrastructure on the streets in and around Ithaca.

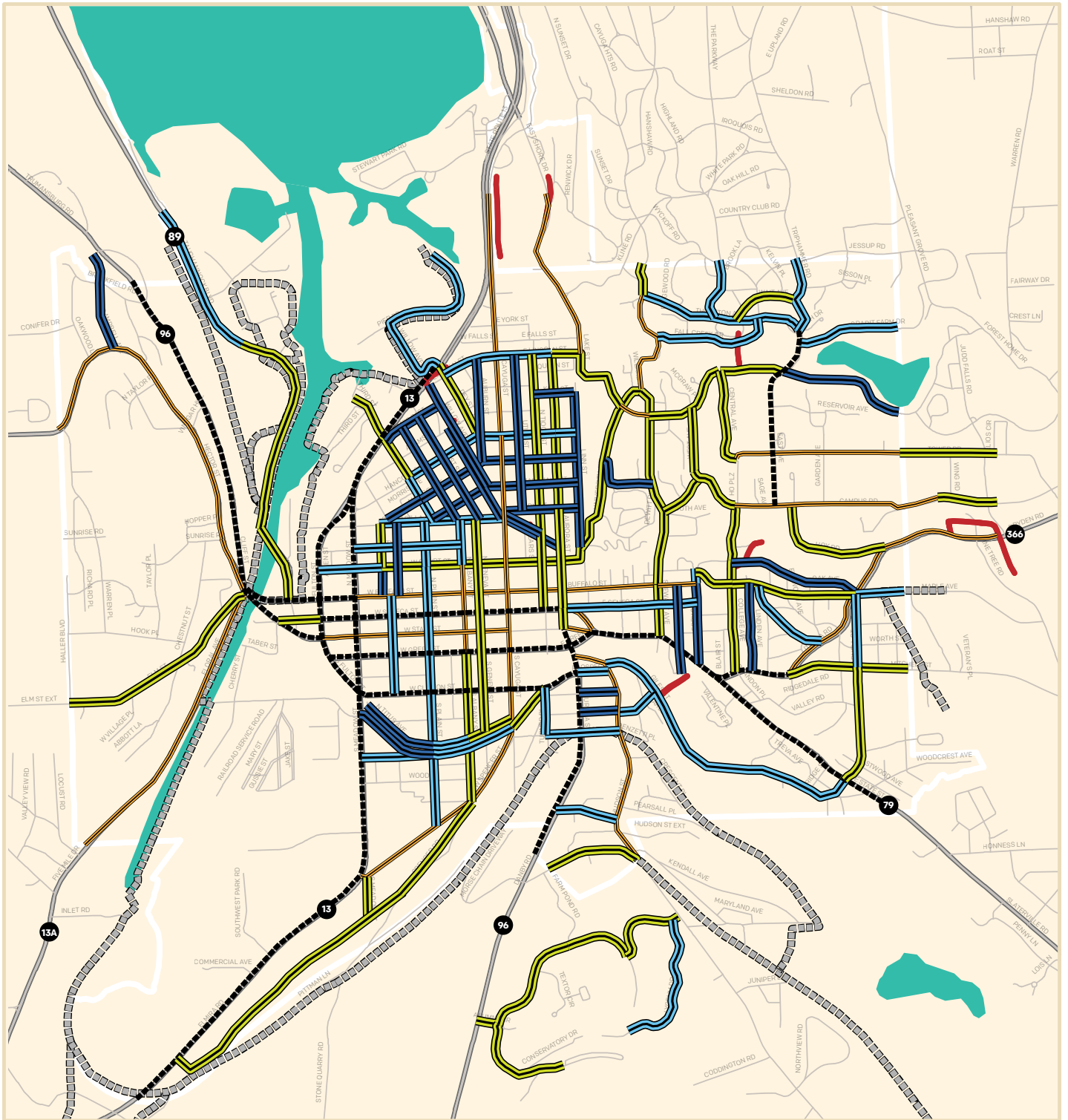


BIKE SUITABILITY 2018 COUNTY WIDE



- ■ ■ ■ Least Suitable
- Fair
- Good
- Very Good
- Excellent
- Off-Road Links

BIKE SUITABILITY 2018 CITY OF ITHACA



LEGEND



- Very Heavy Volume
- Heavy Volume
- Medium Volume
- Low Volume
- Very Low Volume
- Multi-Use Trails

Pedestrian

Pedestrian movements are an extremely important component of local transportation planning. The ITCTC seeks to enhance the pedestrian experience to maintain and increase the number of people who choose this mode of transportation to complete their daily trips.

- The City of Ithaca has a comprehensive network of sidewalks. Through its exemplary sidewalk policy, the city is systematically maintaining existing sidewalks and providing the new facilities to help close gaps in network. The Sidewalk Policy dates to 2014 and moved away from burdening individual property owners with the entire cost of installation and maintenance for sidewalks adjoining their property, towards the creation of five Sidewalk Improvement Districts funded by an annual sidewalk assessment fee.
- Outside the City of Ithaca sidewalks are found mostly in the Tompkins County villages and in areas of the Town of Ithaca where there are denser settlement patterns.
- The need to comply with ADA standards, and to consider issues such as how traffic signal (phase) timing may affect an elderly/ disabled person’s ability to safely cross a street, is an important consideration in pedestrian planning. The importance of this issue will continue to increase as the average age of the population increases over the next 20 years.

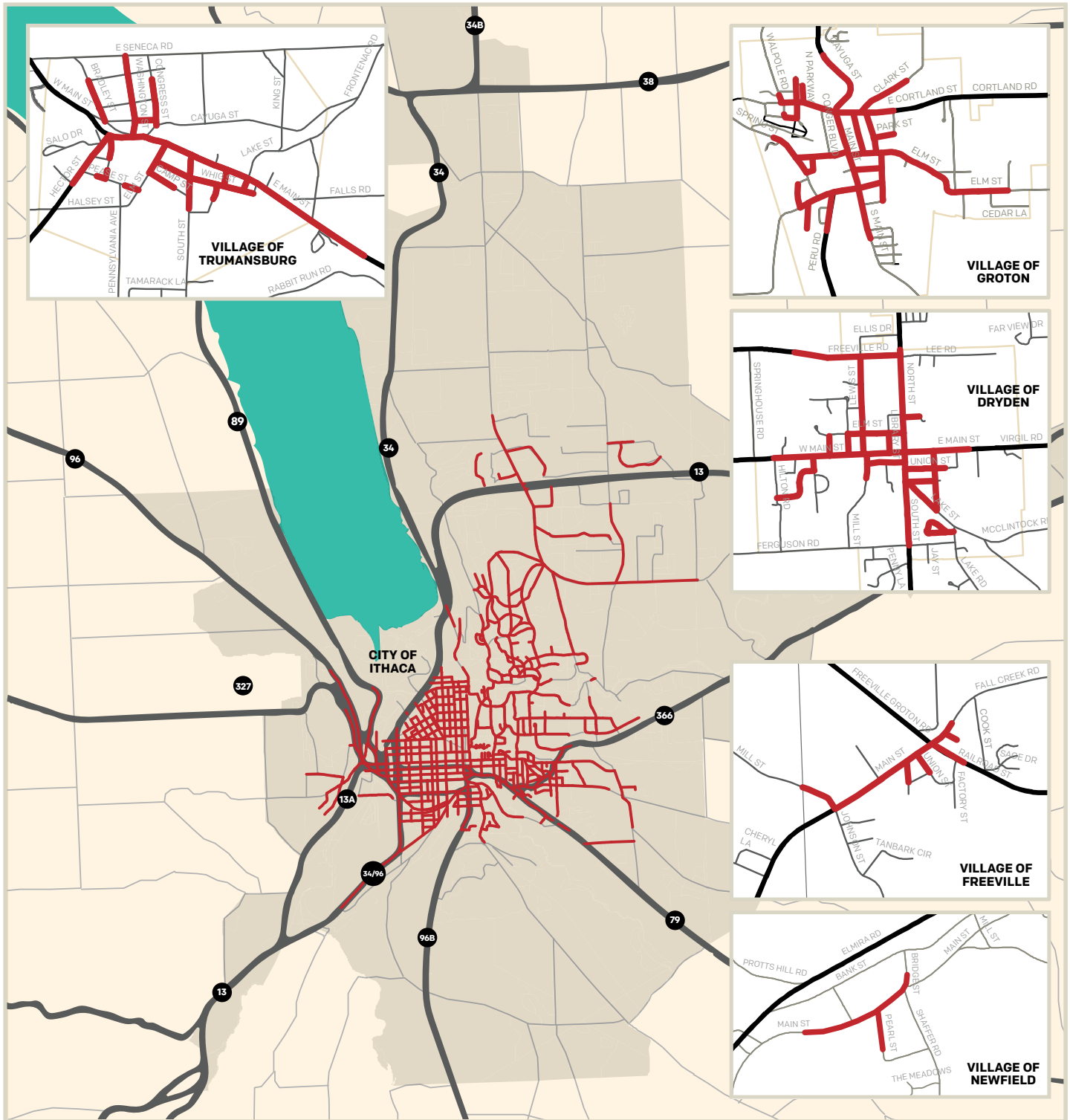
STREETS WITH SIDEWALKS

MUNICIPALITY	ROAD MILES	SIDEWALK MILES	% ROADS W/ SIDEWALKS
CITY OF ITHACA	89.7	56.3	62.7%
TOWN OF ITHACA (W/O V.CAY.HGTS)	115.3	12.1	10.5%
VILLAGE OF CAYUGA HEIGHTS	24.6	8.8	35.8%
VILLAGE OF DRYDEN	11.9	5.8	48.7%
VILLAGE OF FREEVILLE	6.1	.5	8.2%
VILLAGE OF GROTON	12.5	6.5	52.0%
VILLAGE OF LANSING	33.0	3.1	9.4%
VILLAGE OF TRUMANSBURG	12.6	3.9	31.0%

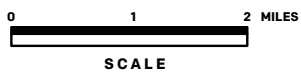
Active Transportation Future Needs

- It is imperative that the ITCTC and its local partners continue to prioritize and implement cost-effective improvements to the active transportation facilities network to ensure the safety of all users. The ITCTC will work cooperatively with its local partners to facilitate planning, programing and implementation of initiatives and projects that will enhance the network of sidewalks, trails, bicycling and other active transportation facilities to provide expanded connectivity between activity areas and improve the safety for users. The development of active transportation networks that safely meet the needs of all persons will, in themselves, provide an incentive for more persons to walk and bicycle.
- Promote educational initiatives, such as local schools providing bicycle and pedestrian safety training, outreach to seniors and marketing campaigns promoting active transportation, to help encourage the use of these important modes of transportation.
- Having an integrated bicycle facilities network in the urbanized area, including among others protected bicycle lanes, intersection treatments, bike lanes and bike boulevards, is necessary in order to capture the potential of bicycling as a mode of transportation.
- Continue to work with the Tompkins County Parks and Trails Network to update and maintain the Tompkins Priority Trails Strategy (included as an appendix) and advance its implementation.
- Monitor developments in micromobility and shared mobility technologies. Consider and evaluate appropriate options for local implementation.
- Participate in initiatives that advance the bike friendly community designation of the City of Ithaca. Assist other municipalities seeking bike friendly designation.
- Facilitate development of strategic plans for the expansion of bicycling facilities in the Ithaca urbanized area.

TOMPKINS COUNTY SIDEWALK INVENTORY 2018



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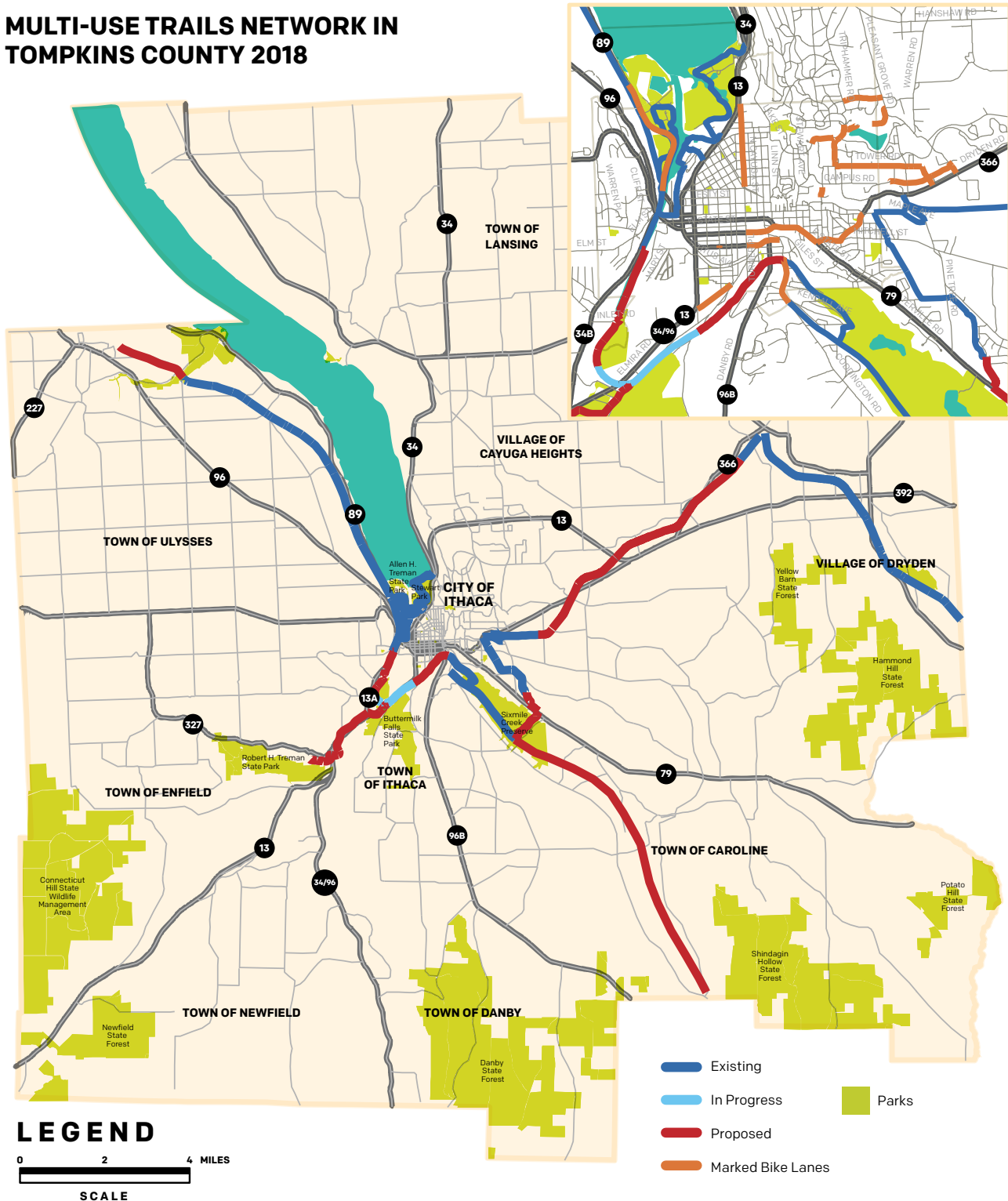
— Roads with sidewalks

Multi-Use Trails

The Tompkins Priority Trails Strategy is included as an appendix to this plan. It identifies a network of trails, the Tompkins County Priority Trails and Urban Connectors, and specifies steps needed to reach trail development. The Tompkins Priority Trails Strategy includes plans for up to 51 miles of connected multi-use trails that will provide regional pedestrian and bicycle connections to many population centers and important destinations.

- There are approximately 30 miles of existing multi-use trails Tompkins County.
- The Black Diamond and Cayuga Waterfront Trails meet at Cass Park in the City of Ithaca. Together they extend approximately 14 miles linking Taughannock Falls State Park near Trumansburg to the City of Ithaca and ending at Stewart Park.

MULTI-USE TRAILS NETWORK IN TOMPKINS COUNTY 2018

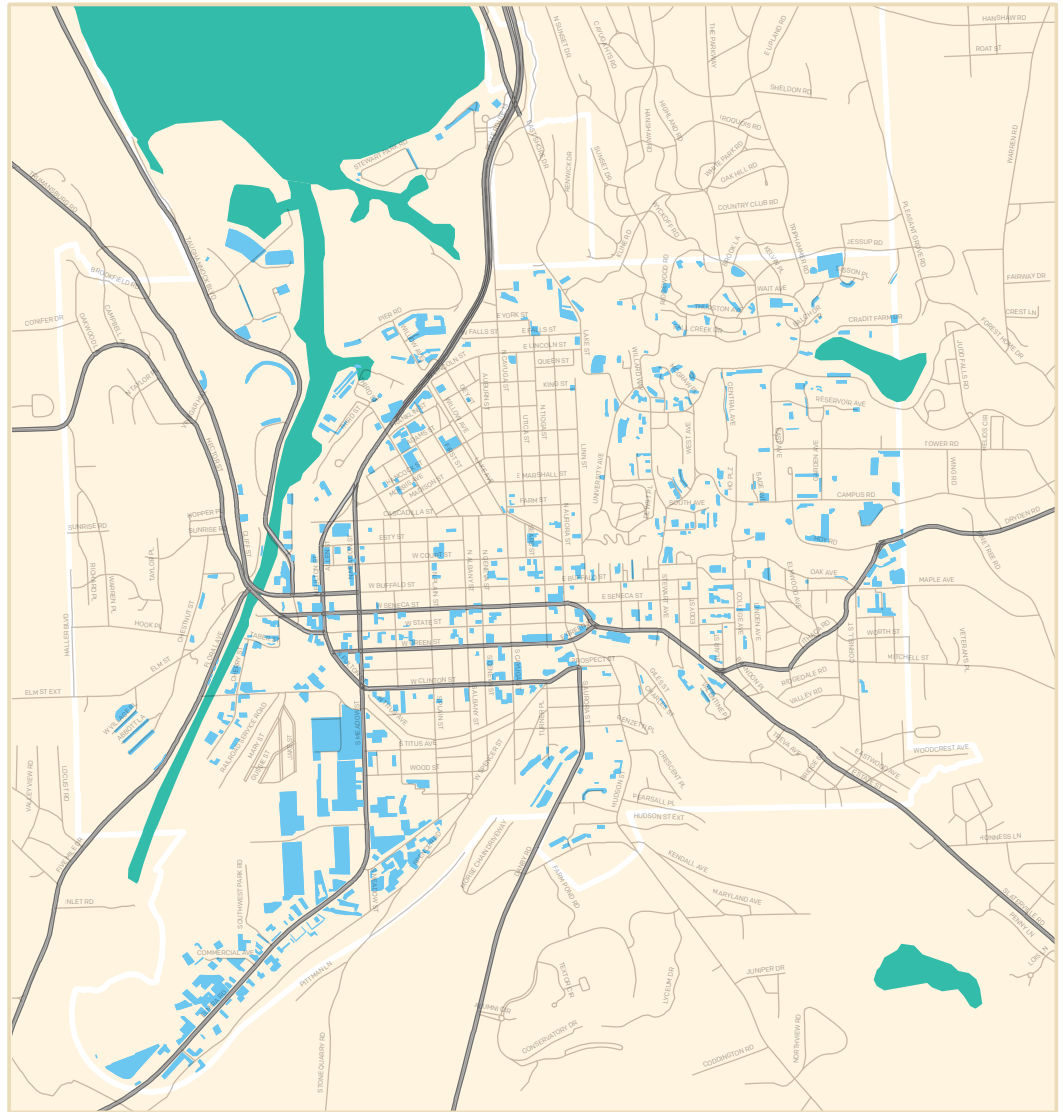


PARKING FACILITIES

Parking areas are an integral part of the transportation system. Their construction, maintenance (including snow removal), and performance must be considered as part of any planning process. The City of Ithaca and Cornell University include the principal employment centers in Tompkins County. In addition, they generate a significant number of recreational and other personal trips. Parking management in these two critical areas is crucial to addressing traffic circulation and public transportation issues.

- The City of Ithaca has three structural parking garages that serve the downtown area and one in Collegietown.
- There extensive on-street parking including metered parking in the vicinity of downtown Ithaca.
- Many businesses also offer parking to their customers particularly in the automobile-oriented retail developments along State Route 13/Elmira Road.
- The City of Ithaca has an ongoing parking study (2019-2020) that will help identify parking management strategies. The ITCTC will monitor developments and cooperate with the City in this effort.
- Cornell offers a network of parking facilities focusing on the campus periphery including two parking garages and two major surface lots.

LOCATION OF PARKING AREAS CITY OF ITHACA



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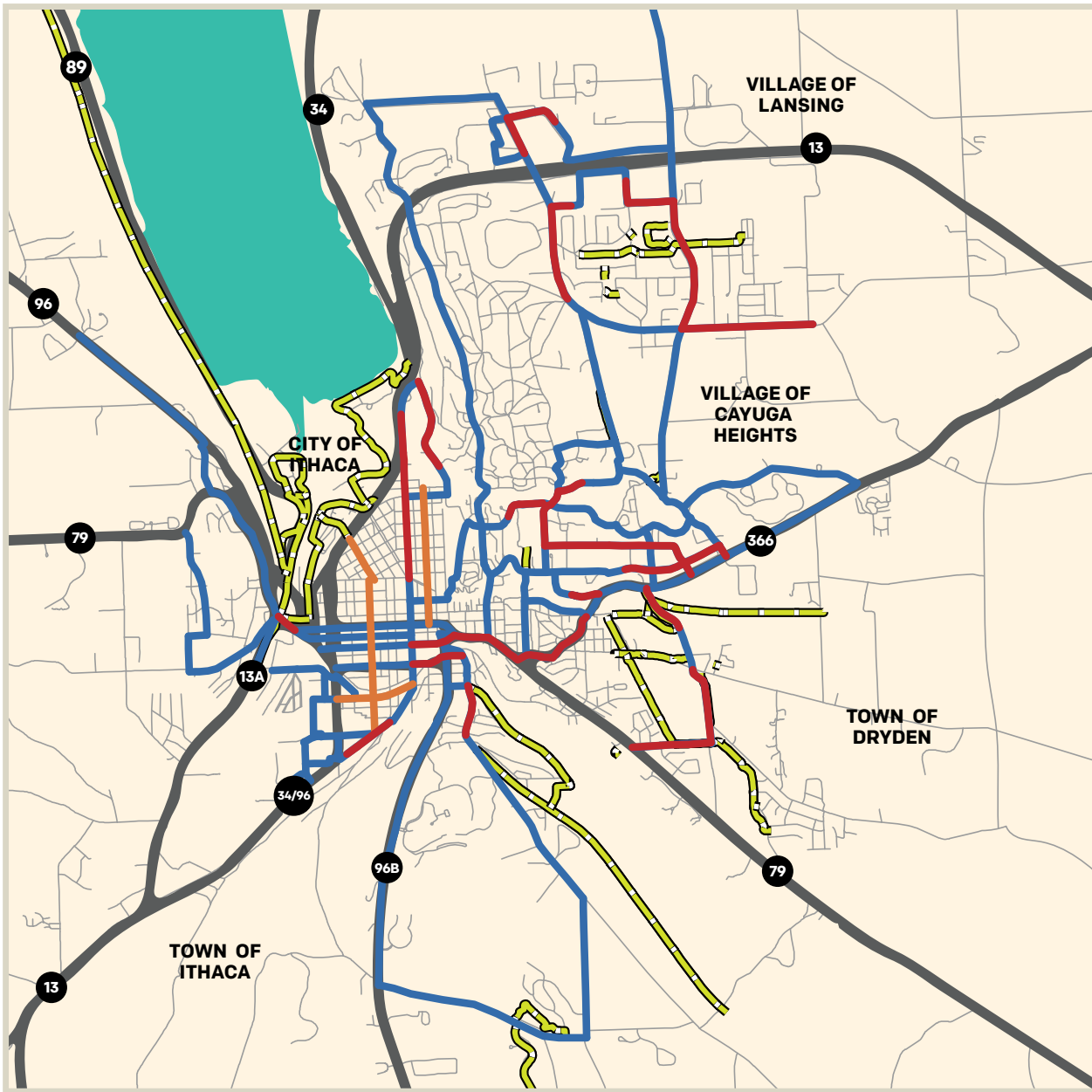
■ Parking Areas



COMPLETE STREETS NETWORK

The Planning Committee of the ITCTC, identified a well-coordinated network of roads to form a Complete Streets Network for the urbanized area of Tompkins County. A 'Complete Street' is a street designed and operated to enable safe access for all users regardless of their mode of transportation, so that pedestrians, bicyclists, motorists or public transportation users of all ages and abilities can move safely along and across the street. The roadways selected have been inventoried to determine existing complete street design components. Over time, as maintenance and construction take place on these roads, the ITCTC will work with local project sponsors to include additional complete street components. As the network is completed it will tie together numerous residential, employment and activity centers so that travelers will have multiple transportation options to reach their destinations.

COMPLETE STREETS NETWORK APRIL 2019



LEGEND



Complete Street definition:

- Sidewalk on at least one side of the street
- Marked Bicycle Lane, Wide Road Shoulder, or Bicycle Boulevard
- Within 1/4 mile of hourly (minimum) Bus service

- Current Complete Streets - meets all modes
- Bike Boulevard
- Proposed Complete Streets Inventory
- Existing Multi-Use Trails and Paths

Environmental Concerns

The transportation system must balance the protection of our natural, social, cultural, and historical resources with the need to address transportation demands. It is undeniable that the provision of transportation, particularly a system based on internal combustion engine cars and trucks, generates significant undesirable environmental impacts. Environmental concerns range from the more vehicle related issues (e.g. air quality, noise impacts, energy use, etc.), to project construction issues (location relative to sensitive lands, impacts to water resources, habitats, etc.), to more community-level planning concerns (e.g. neighborhood preservation/impacts, jobs/housing balance, appropriate mixed-use development, etc.). As a result, addressing environmental impacts related to transportation will necessarily result in considerable overlap between multiple planning disciplines, i.e. land use, economic development, neighborhood planning, natural areas planning, etc.

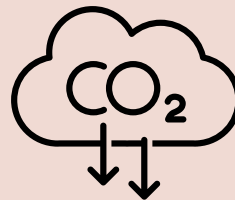
Air Quality-Greenhouse Gas Emissions (GHG)

- The Tompkins County Comprehensive Plan includes an 'Energy and Greenhouse Gas Emissions Element' and a "Greenhouse Gas Emissions and Energy Use Inventory" (2016). ITCTC staff worked with the Tompkins County Planning Department to ensure that their plans and the ITCTC's Long Range Transportation Plan were mutually supportive.
- The Tompkins County community has established a goal to reduce GHG emissions at least 80% from 2008 levels.
- Currently, Tompkins County is in attainment of National Ambient Air Quality Standards. However, it is understood that failure to consider emission issues in an integrated and comprehensive manner could lead to continued and unacceptable degradations in air quality.
- Nationwide the transportation sector produces the most GHG emission, approximately 29% of total emissions (Source: U.S. Environmental Protection Agency (EPA), Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017, April 2019). Trucks and cars account for 83% of the transportation related emissions.
- In Tompkins County, transportation (31%) and commercial (35%) are the two largest sectors contributing to GHG emissions, with near equal emissions totals.
- Gasoline is the fuel that emits the highest level of greenhouse gases. In the Tompkins County transportation sector, the vast majority of energy use and GHG emissions are from gasoline (81.1%), followed by diesel (15.1%). Approximately 95% of vehicle miles of travel are from passenger vehicles and light trucks. This means that to have a real impact on emissions reductions the focus needs to be on cars, SUVs, vans, minivans and light trucks, less so on buses and heavy trucks.

REDUCING EMISSIONS

Future scenario analyses by the ITCTC demonstrate that there is no single solution to the challenge of reducing GHG emissions from transportation. In order to reduce GHG emissions to match county goals, it is necessary to reduce overall vehicle miles of travel and replace internal combustion engines with electric or plug-in hybrid electric technologies.

The policies, projects and initiatives in the LRTP support the development of transportation systems and programs that reduce dependence on internal combustion engine (ICE) automobiles, and particularly single occupancy vehicle use. This is encouraged by providing improved services and facilities for other modes, by supporting transportation demand management (TDM) programs and by supporting land use development practices that facilitate multiple modes of transportation. Concurrent with the above, the LRTP recommends fleet efficiency improvements that reduce fossil fuel use (shift to electric and plug-in electric vehicles) and improvements in transportation system operations that result in enhanced system efficiency, reducing congestion and idle time. Together, these will result in reduced GHG emissions and other negative impacts of ICE automobile use.

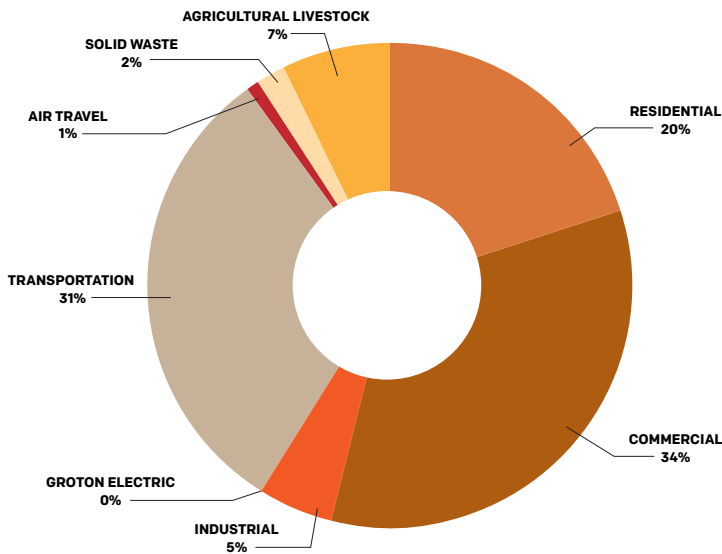


SUMMARY OF 2014 ENERGY CONSUMPTION AND GHG EMISSIONS BY SECTOR

SECTORS	ENERGY IN MMBTu	% OF TOTAL	EMISSIONS MTCO2e	% OF TOTAL
RESIDENTIAL	3,444,657	24%	197,241	20%
COMMERCIAL	5,435,572	38%	349,579	34%
INDUSTRIAL	854,854	6%	48,141	5%
GROTON ELECTRIC	86,457	1%	2,137	0%
TRANSPORTATION	4,275,412	30%	304,923	31%
AIR TRAVEL	152,969	1%	12,172	1%
SOLID WASTE	0	0%	15,114	2%
AGRICULTURAL LIVESTOCK	0	0%	66,612	7%
TOTAL	14,249,921	100%	995,919	100%

Source: 2014 Tompkins County Community Greenhouse Gas Emissions and Energy Use Inventory
MTCO2e—metric ton of carbon dioxide equivalent—a measure of the combined ability of emitted GHGs to trap heat.
MMBTu—Million British Thermal Units—measure of energy content in fuel; used in comparing energy content of various fuels.

EMISSIONS BY SECTOR-TOMPKINS COUNTY-2014



TRANSPORTATION FUELS: 2014 ENERGY CONSUMPTION AND GHG EMISSIONS – TOMPKINS COUNTY

FUEL	US GALLON	ENERGY IN MMBTu	% OF TOTAL	EMISSIONS MTCO2e	% OF TOTAL
GASOLINE	29,034,150	3,631,500	82.0%	257,272	81.1%
DIESEL	4,673,058	643,912	14.5%	47,651	15.0%
JET FUEL	1,241,929	149,031	3.4%	11,898	3.8%
AVIATION GASOLINE	32,820	3,938	0.1%	274	0.1%
TOTAL	34,981,957	4,428,381	100%	317,095	100.0%

Source: 2014 Tompkins County Community Greenhouse Gas Emissions and Energy Use Inventory

Land Use Planning

In New York, land use and transportation planning have occurred in relative isolation from each other. In the July 1994 edition of the Land Use Law Reporter (Pace University School of Law, Albany, New York) it was stated the following...

"...failure to coordinate land use and transportation planning has:

- **made it very difficult if not impossible, to predict transportation demand and plan effective regional transportation systems;**
- **created land use patterns that are automobile dependent, energy inefficient, environmentally damaging and that cannot be serviced properly by public transportation systems;**
- **generated traffic congestion that increases air pollution..."**

These statements are still valid twenty-five years later as communities across the New York continue to struggle with containing sprawl development, and managing congestion, energy and air pollution issues.

- Land use patterns are fundamental determinants of the number of trips that people make.
- Zones that offer a mix of complementary land uses (e.g., commercial, residential, recreational) together with supporting design guidelines, enable persons to combine trips, encourage more pedestrian and bicycle trips, facilitate the provision of transit, reduce the number and length of automobile trips, and result in reductions in congestion, and consequently, energy consumption and vehicular emissions. The ITCTC will work with municipalities in support of developing and implementing land use policies and projects that take advantage of these urban efficiencies.
- In all cases transportation challenges must be managed based on the conditions of each location and considering the need and desires of the community. There is no single strategy or recommendation that will serve all locations or address all issues.
- Equity considerations. Proposed transportation projects must be evaluated to ensure environmental, social, cultural, and economic impacts are not disproportionately affecting any neighborhood, community or group, so as to not unfairly burden or advantage any socioeconomic group or community. Transportation related technical project evaluations are important, but it is also crucial to analyze the transportation system to ensure that the principles of social and environmental justice and ecological sustainability are achieved. Not all population groups have similar demands from our transportation system. Census data shows that minority and low-income populations use a greater variety of modes than white non-Hispanics for the important trip to work. This type of differences must be recognized in order to best serve the needs of all communities.

Minimizing Negative Impacts on the Natural Environments and Historic Resources

Although transportation projects can have undesirable impacts on the natural environment, measures can be taken to reduce and minimize these effects. The ITCTC will continue to monitor proposed federally funded projects and programs to make sure they don't impact environmentally sensitive areas. Projects with severe environmental impact, such as construction of new roadways, are rare within the ITCTC planning area. Nevertheless, Tompkins County features a high concentration of natural and historic resources that may be subject to the adverse impacts of transportation projects. These resources include gorges, forests, and wetlands, as well as significant architectural sites.

To that end, the ITCTC will continue to coordinate with the Tompkins County Department of Planning and Sustainability (TCDPS) and their Natural Resources and Agriculture initiatives – www.tompkinscountyny.gov/planning/nri. TCDPS has identified Natural Features Focus Areas; Unique Natural Areas, Federal and State Wetlands; and Historic Bridges and Structures in the ITCTC region. This information is used to track potential impact of transportation projects.

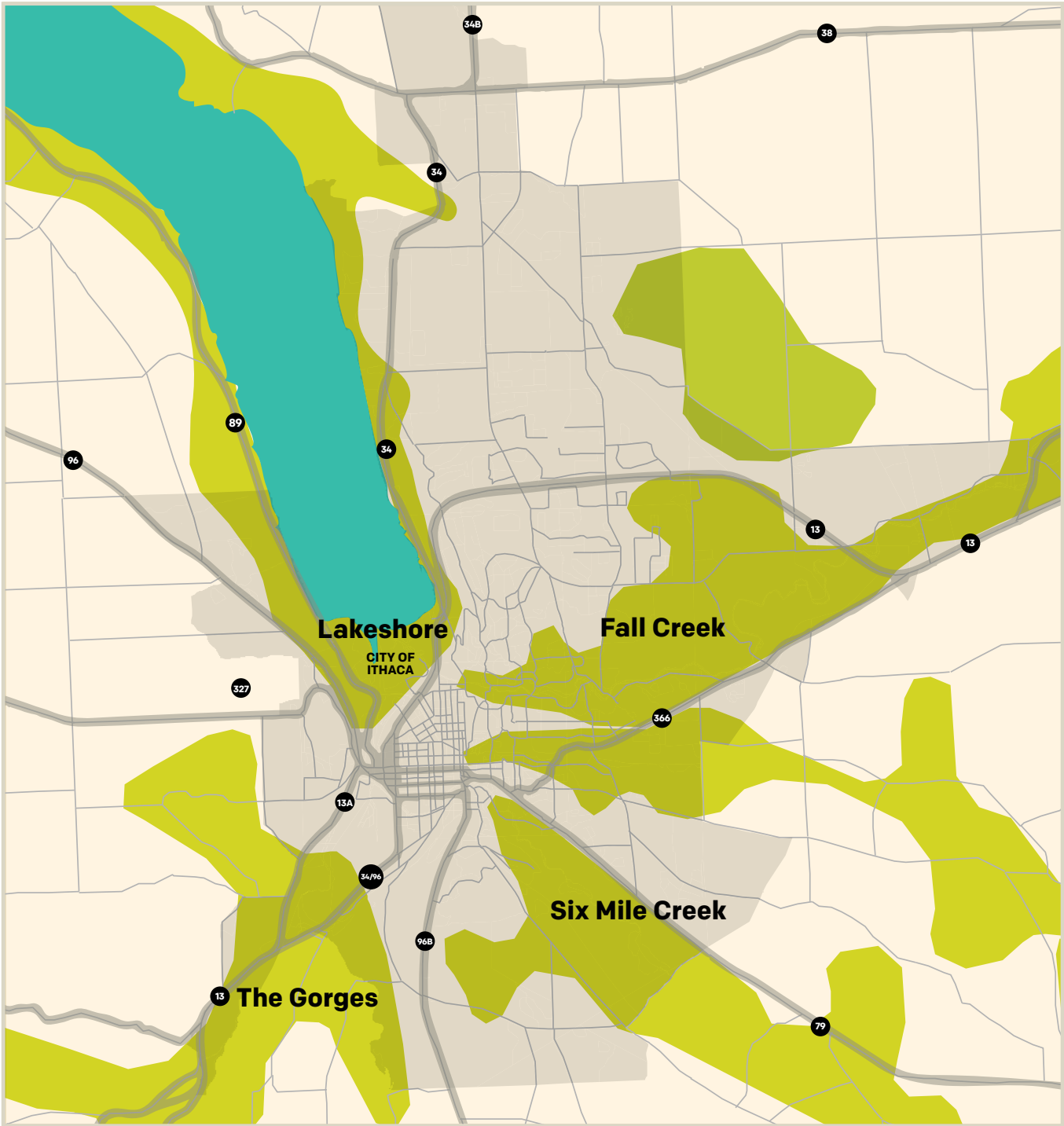
Additional recommended actions that reduce environmental impacts include:

- diverting storm-water runoff to retention basins to reduce salt, silt, and thermal contamination;
- collecting paint chips from bridge maintenance projects to protect streams from lead contamination;
- minimize the use of salt in winter;
- ensure sedimentation and herbicidal pollution are minimized during maintenance practices;
- minimize the use of defoliants and herbicides by planning for maintenance free plantings through State or National wildflower programs;
- maintain the health and effectiveness of roadside trees, shrubs and groundcover;
- Work to eliminate the use of herbicides;
- Cleaning roadside drainage systems has been identified as a major source of sedimentation in creeks feeding Cayuga Lake. Effective mitigation measures such as immediate reseeding of ditch sides after cleaning should always be implemented.

NATURAL FEATURES FOCUS AREAS IN TOMPKINS COUNTY, NY




NATURAL FEATURES FOCUS AREAS IN ITHACA, NY



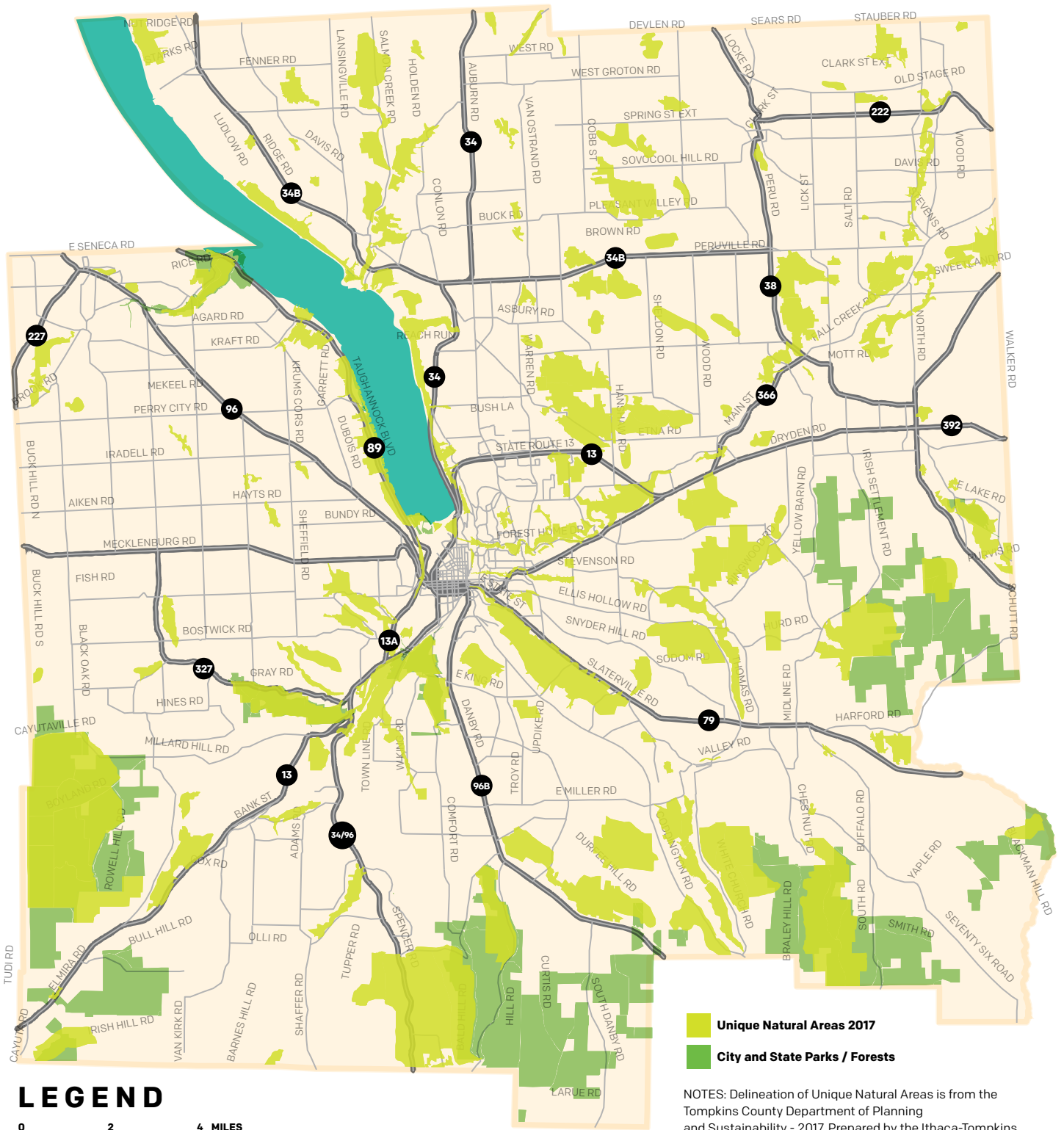
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 Natural Features Focus Areas

Delineation of Natural Features Focus Areas is from the Tompkins County Planning Department - 2004.

UNIQUE NATURAL AREAS (UNAs) IN TOMPKINS COUNTY, NY



UNIQUE NATURAL AREAS (UNAs) IN ITHACA, NY



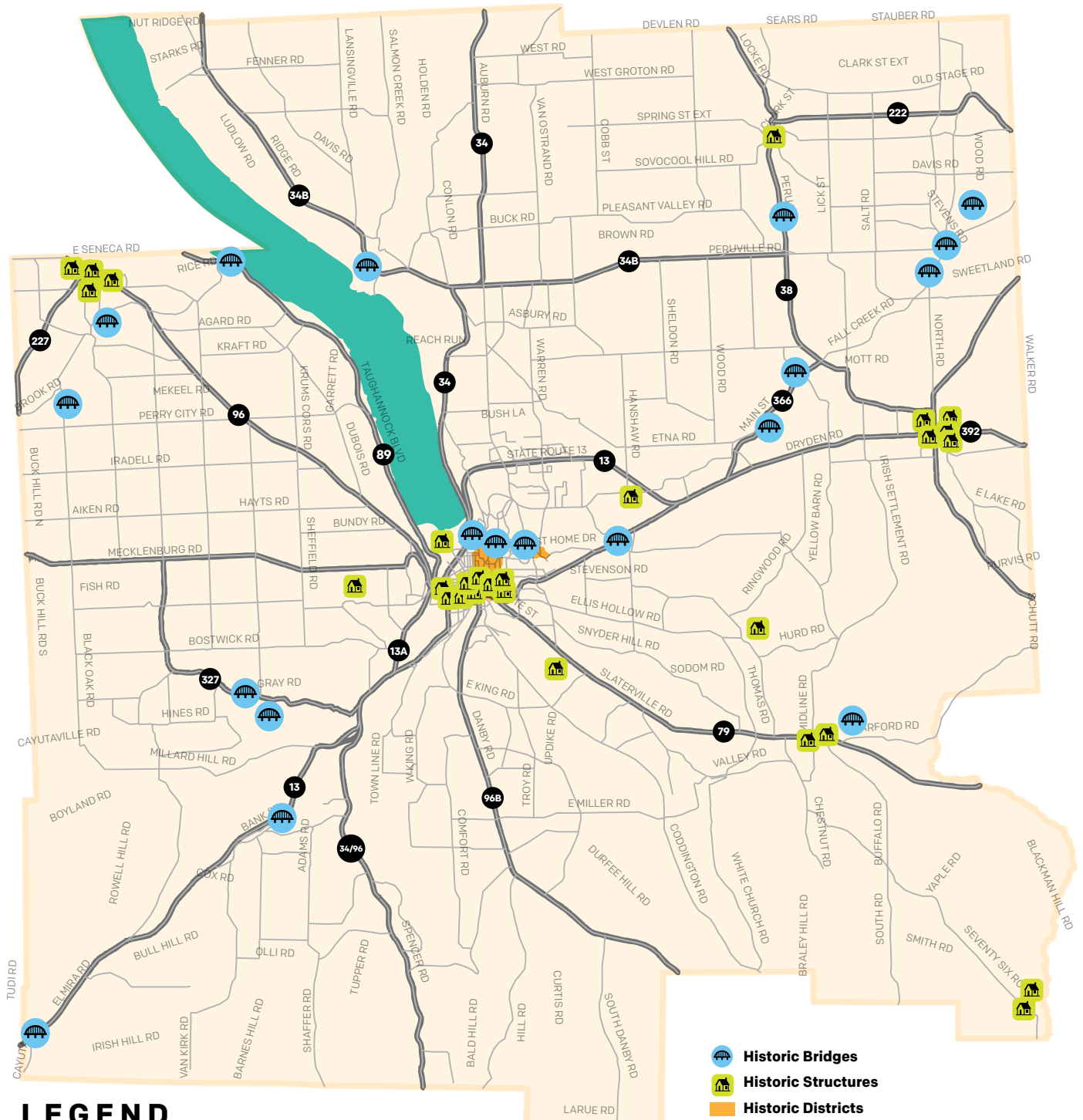
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- Unique Natural Areas 2017
- City and State Parks / Forests

NOTES: Delineation of Unique Natural Areas is from the Tompkins County Department of Planning and Sustainability - 2017. Prepared by the Ithaca-Tompkins County Transportation Council - 9/13/18

HISTORIC BRIDGES AND STRUCTURES IN TOMPKINS COUNTY, NY



-  Historic Bridges
-  Historic Structures
-  Historic Districts

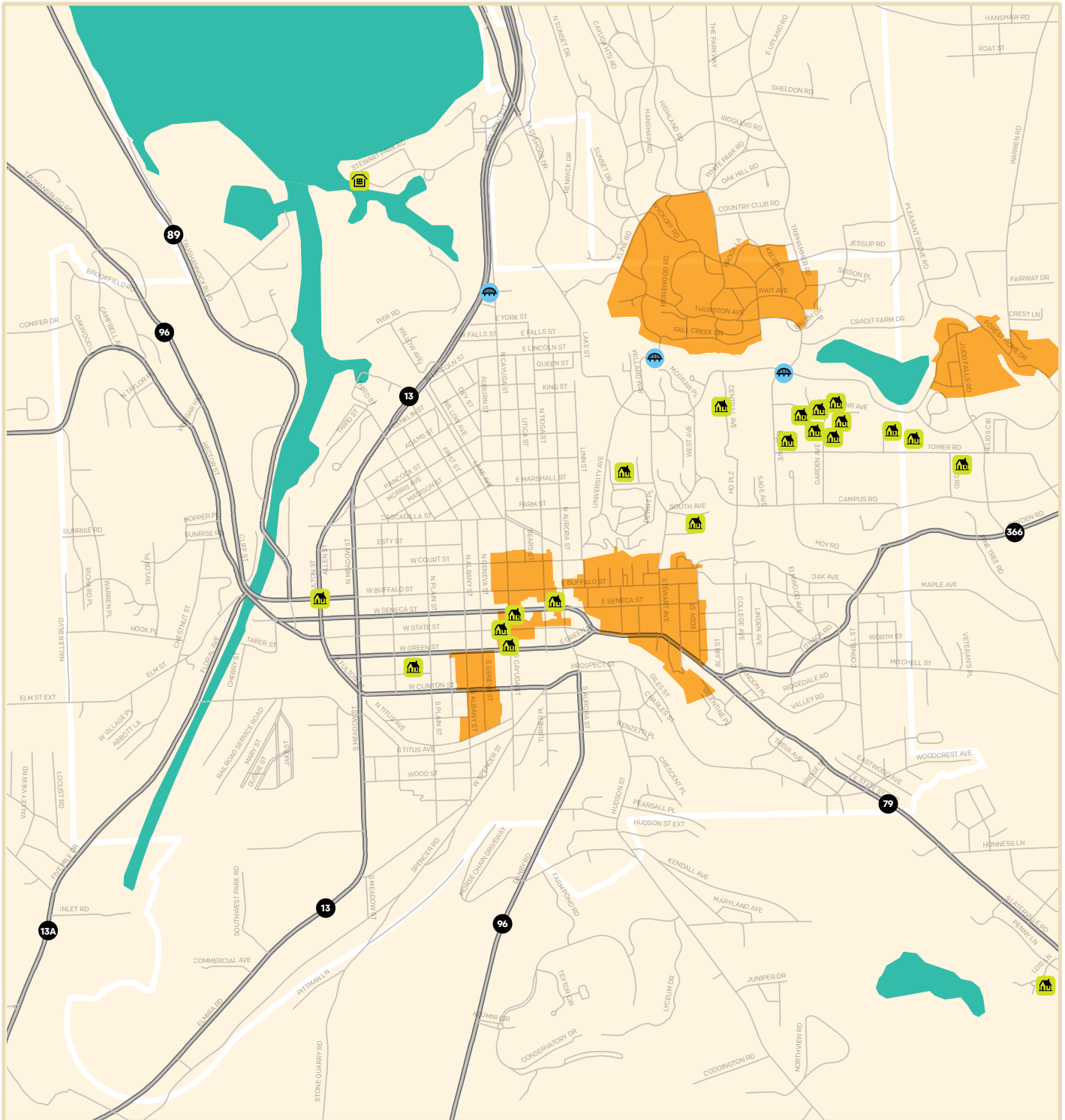
Location of historic bridges structures is from NYSHPO and Historic Ithaca. Location of historic bridges is from NYSDOT.

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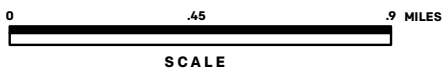
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SCALE

HISTORIC BRIDGES AND STRUCTURES IN THE CITY OF ITHACA, NY



LEGEND



-  **Historic Bridges**
-  **Historic Structures**
-  **Historic Districts**

Location of historic bridges structures is from NYSHPO and Historic Ithaca. Location of historic bridges is from NYSDOT.

Scenic Resources

Residents in Tompkins County have shown a strong desire to consider the aesthetics and impacts of roadway projects during the planning stages. The ITCTC supports the idea that “infrastructure should fit the land”, through consideration of geographic and environmental conditions, but also through placement and design. To help identify and protect scenic areas, vistas, and corridors, Tompkins County completed a Tompkins County Scenic Resources Inventory, (www.tompkinscountyny.gov/planning/nri-scenic_resources).

The New York State Scenic Byways Program designated the Cayuga Lake Scenic Byway (CLSB) as a scenic byway in 2001. The CLSB is an eighty-six-mile-long system of roads circumventing Cayuga Lake, including: State Roads 89, 90, 34, 34B and 5/20 (www.cayugalake.com). Currently, the non-profit corporation Cayuga Lake Scenic Byways, Inc., serves as the facilitator agency implementing the byway’s corridor management plan, applying for funding and otherwise managing the development of the CLSB in cooperation with interested parties and all three counties with jurisdiction: Cayuga, Seneca and Tompkins. It is expected that, together with the Route 90 Scenic Byway, the CLSB will provide a solid foundation for the development of a broader Finger Lakes Scenic Byway network. The ITCTC will continue its support of the CLSB for the benefit of residents and visitors to Tompkins County.

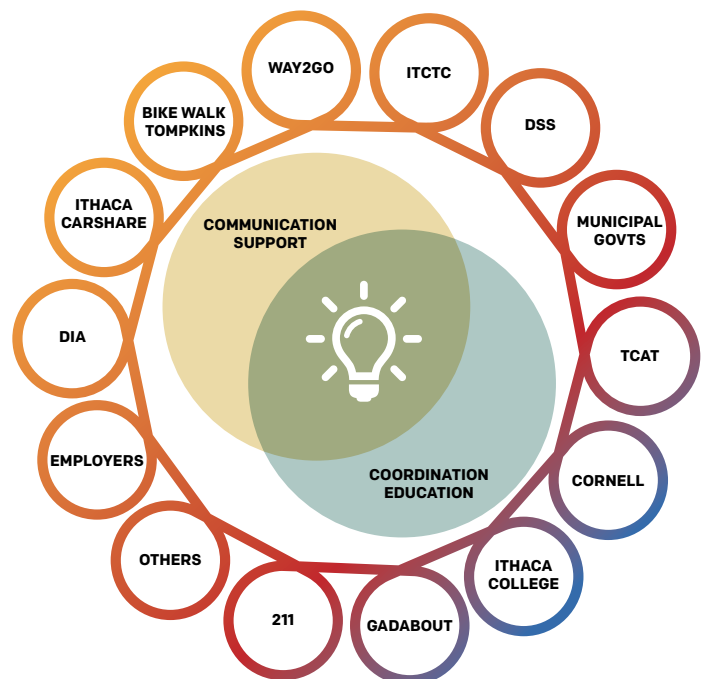


Collaborations

Achieving the goals of this plan will require active collaboration between all stakeholder parties in the provision of transportation. This includes everyone from civic groups, like Downtown Ithaca Alliance to private non-profits, like the Center for Community Transportation, to municipalities and other government agencies. Most major recent achievements in transportation in Tompkins County are the result of significant collaboration efforts. Examples include :

- TCAT – City of Ithaca, Cornell University and Tompkins County
- Ithaca Carshare – citizen involvement, Cornell University, Ithaca College, ITCTC
- Finger Lakes Rideshare – ITCTC, Cornell University, Ithaca College, TC3, Wells College, Binghamton University, City of Cortland, Tompkins County, TCAT, Way2Go
- Cayuga Waterfront Trail - Tompkins County Chamber of Commerce, City of Ithaca, ITCTC, citizen involvement
- School Success Transportation Coalition – www.schoolsuccessstc.weebly.com/ - school district, Way2Go, ITCTC, Dept. of Social Services

This is just a small sampling of collaborations that have resulted in significant projects. There are many more already built or ongoing as well as in the planning stages. An important function of the ITCTC is to continue to foster and support collaborative efforts that help a small urban area like Ithaca-Tompkins County achieve success in the implementation of transportation projects and programs.



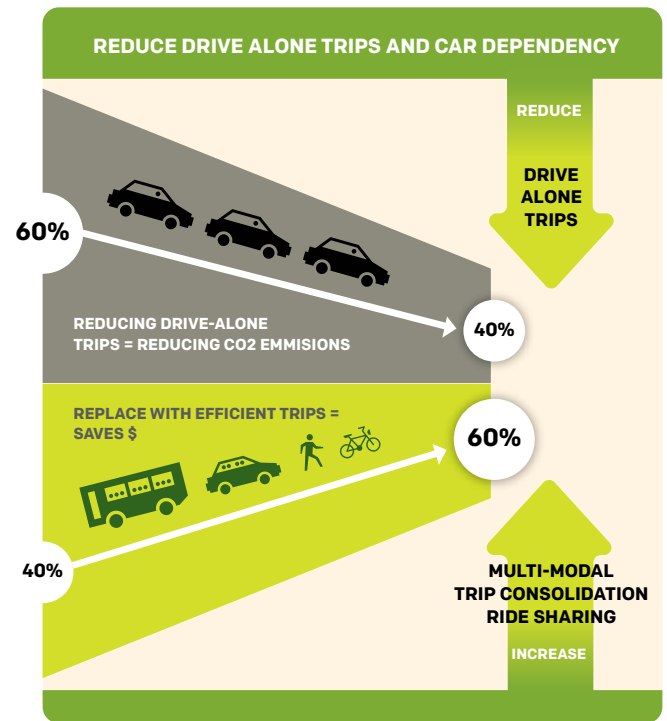
Looking to the Future

Experience and analysis show that in the transportation sector there is no single solution to meet the needs of all travelers. Every person has individual needs and although it will be possible to serve many with particular services such as fixed route transit, there will always be some that are left out and will need different strategies to meet their needs. There is also an operational imperative to increase safety and help reduce negative impacts to our communities and the environment. In summary, the ITCTC’s action plan seeks to meet the transportation challenges in our community by maintaining existing infrastructure and systems, expanding and promoting multi-modal mobility, and expanding community collaboration for transportation demand management, mobility services, education and promotion.

Expand and Promote Multimodal Mobility Options and Integration

The LRTP goals and objectives stress the need to facilitate the use of alternatives to the automobile. Having more options for transportation creates multiple community benefits such as: cost savings from reduced private automobile expenses; reduced Greenhouse Gas emissions and fossil fuel consumption; reduced water pollution from vehicular fluids; reduced congestion; less traffic accidents; health improvements from active transportation; transit enhancements; more equitable access to transportation; etc.

In Tompkins County the main strategy for improving mobility is founded on reducing drive-alone trips and miles traveled through the diversion of trips to other modes of transportation, primarily transit, ridesharing/car-pooling, walking and bicycling. As an area with moderate growth rates and a relatively small population base, there is the opportunity to develop and market effective programs that address the needs of different population groups. Overall in Tompkins County, drive-alone trips encompass



YOUR EVERYDAY TRANSPORTATION OPTIONS WITHIN TOMPKINS COUNTY

OPTIONS BY TIME & DISTANCE

0 MINUTES	5	10	20	40	60+
0 MILES	1	3	10	30	50+
<p>WALKING</p> <p>Use your favorite mapping app to find the best route or visit bikewalktompkins.org to learn about walking and biking resources in Tompkins County.</p>	<p>BICYCLING</p> <p>Put a bike on the bus and go farther!</p>	<p>TAKE A BUS</p> <p>myStop & Transit App</p>	<p>SHARE A RIDE</p> <p>Finger Lakes RIDESHARE</p> <p>Find and share a ride on the Finger Lakes Rideshare network</p>	<p>INTERCITY BUSES</p>	<p>AIR TRAVEL</p>
<p>BIKESHARING</p> <p>Borrow a bike in Ithaca 24/7</p> <p>Time</p>	<p>SHARE/RENT A CAR</p> <p>Ithaca CARSHARE</p> <p>Cars available 24/7 for members</p>	<p>HAIR A RIDE</p> <p>and ridehailing apps</p>	<p>For one time, multi-day, or one-way trips, consider a car rental company:</p> <p>avis.com enterprise.com budget.com hertz.com</p>		
			<p>Let someone else take you there</p> <p>ASAP Cab Company Ithaca Dispatch Collegetown Cab T-Cab</p> <p>lyft.com uber.com</p>		

INFORMATION	SPECIALIZED TRANSPORTATION	ADDITIONAL SUPPORT
<p>Finger Lakes Region, New York</p> <p>2-1-1 Get Connected. Get Answers.</p> <p>Need help finding help?</p> <p>Way2Go Take Charge of Your Transportation</p> <p>Learn how we can help you or your organization</p>	<p>GADABOUT</p> <p>For seniors (60+) and people with disabilities</p> <p>RETIREDCAR DRIVESCHOOL RIDES</p> <p>For ICSD students and families to attend school events and activities</p>	<p>FISH FRIENDS IN SERVICE HELPING</p> <p>Volunteer transportation service to in-county medical appointments</p> <p>There are other non-emergency medical transportation options available</p> <p>AVRE Travel training for people who are visually impaired Catholic Charities Bus passes and gas cards for people who qualify Challenge Travel training for people with disabilities and other barriers County Office for the Aging Referrals to people who can help seniors with transportation</p>

60% of all trips; shared, transit, bicycle and pedestrian modes accommodate the other 40%. The challenge identified in future scenario analysis is to essentially invert the proportion of drive-alone to active and shared modes, together with the shift to electric vehicles.

As of 2019, surface transportation options to the private automobile in the Tompkins County area include transit (TCAT/Gadabout), intercity bus service, taxi, car rental, car sharing, bike sharing, ridesharing/carpooling, ride hailing, bicycling and walking. The adequacy of walking and bicycling facilities varies across the county. Opportunities exist to enhance and expand the ridesharing/carpooling programs and possibly add vanpooling. In addition, the provision of public transportation needs to be constantly evaluated to ensure that service is always optimized and supported. Having robust alternatives to the private automobile for transportation will make Tompkins County more efficient, and economically and environmentally resilient.

Equity Considerations

It is important to include equity considerations in every facet of transportation planning and design. Each person has a particular set of needs and limitations that community wide, cannot be addressed by a single transportation-mode strategy. Providing options in transportation - transit, paratransit, car share, ride share, bicycling, pedestrian, taxi, etc. - will allow individuals to achieve mobility without the need and economic burden of private automobile ownership. The following should be considered:

- (a) making transportation a consideration in the planning of programs and facilities serving the elderly and people with disabilities;
- (b) studying and considering the development of day care facilities and other services in conjunction with major activity nodes/employment centers, and
- (c) considering the need to link low income neighborhoods to employment opportunities, retail and service centers, and recreational facilities through a variety of transportation modes and program strategies.

Transportation Demand Management

Transportation Demand Management (TDM) is the name given to a series of strategies that can be utilized singly or in tandem to create a program whose purpose is to alleviate traffic problems through reduction of automobiles on the road, especially single occupancy vehicles. The strategies include combinations of improved alternatives to driving alone, incentives to use alternative modes, disincentives for driving alone, along with work hour management. Cornell University has a well-established TDM program that serves its students and employees. A more recent effort the Downtown Ithaca Alliance, in coordination with the City of Ithaca and various business and civic partners, including the ITCTC, is establishing a TDM program with a focus on the downtown Ithaca area - www.downtownithaca.com/living-in-downtown-ithaca/go-ithaca/.

Mobility as a Service

Mobility as a Service (MaaS) is an approach for the provision of transportation as a series of mobility solutions that are consumed as a service. This is achieved by coordinating all available transportation services, from private and public providers alike, through a unified process that creates and manages the trip with payment from a single account. The goal is to be customer focused, simplify access to multiple transpor-

tation modes and offer affordable payment plans for transportation services. In 2018 Tompkins County received an FTA Mobility on Demand On-Ramp grant for technical assistance to develop a MaaS pilot project. Programs that help simplify access and financing for different transportation options will be instrumental in facilitating the transition away from private automobile dependency.

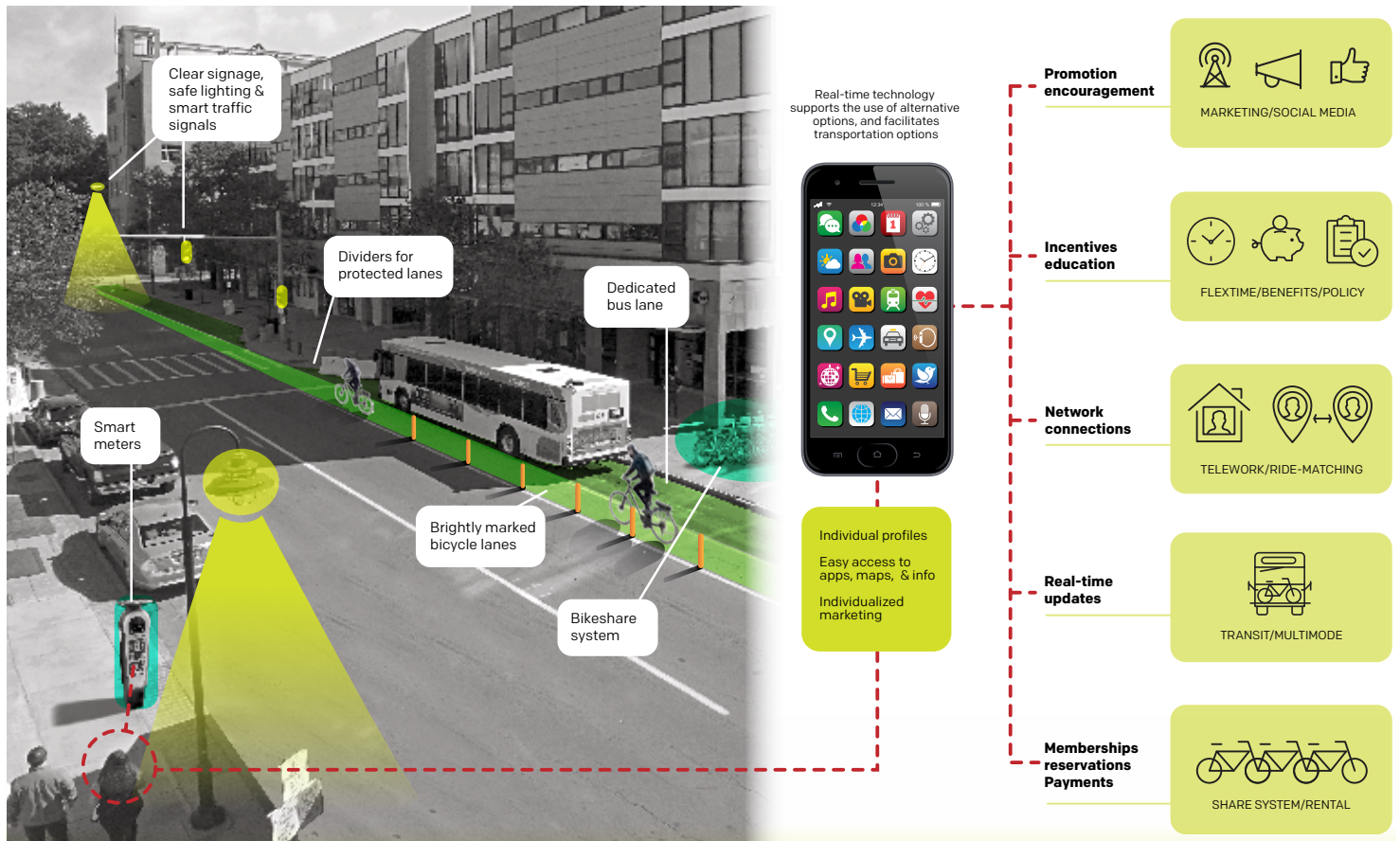
Transportation System Management

Transportation System Management (TSM) involves managing the existing transportation system to obtain increased efficiency, which relates to the "supply side" of the transportation system equation. TSM projects are often used as cost-effective means of reducing intersection or corridor related congestion. TSM strategies focus on upgrades to coordinated traffic signals, establishing formal traffic incident management plans addressing accidents and weather events, advanced planning for detour routes, providing real time information to drivers and coordinated/shared data collection. Specific roadway design changes such as alleviating bottlenecks on a road, adding a turn lane at an intersection or the use of alternative intersection designs (e.g., roundabouts) may be considered as TSM strategies. However more intensive capacity expansion projects – adding new lanes or new roads – are not considered TSM. The appropriate use of TSM measures should be determined on a case-by-case basis within the framework of a regional plan of action. The ITCTC is supportive of implementing TSM projects that help improve operational efficiencies.

Support Regional Solutions

Tompkins County is a significant regional employment center. Thousands commute into the county daily for work. Tompkins County also offers services, recreation and shopping destinations that attract significant regional traffic. The ITCTC will continue to work cooperatively with neighboring agencies and governments to promote transportation programs and services that further the goals of the LRTP. For example, Move Together NY (www.movetogetherny.org/) is a project of the Cornell Cooperative Extension of Tompkins County (CCETC). The goal of the project is to improve transportation access to health care and employment, particularly in rural areas, where cross county travel is required. Move Together NY was formed after completion of the ITCTC sponsored seven-county 2013 Regional Transportation Study.

SMART URBANIZATION - URBAN EFFICIENCIES IN TRANSPORTATION



TECHNOLOGY AND URBAN DESIGN

Purposeful urban design and communication technologies can work together to facilitate the shift to efficient and convenient multiple transportation options. Urban centers, even in small settings like our villages, offer the opportunity to tap into urban transportation efficiencies – more affordable transit options, opportunities for bicycling and walking, feasible shared transportation services. Technology has made possible the explosion of shared transportation services such as car share, bike share, ride matching services, access to bus location and next bus information. Technology is also allowing public transportation agencies to develop innovative on-demand services that offer great promise for harder to serve rural areas. Another important effect of access to communication technologies is the continuing increase of people working from home (up to 7% of workers in Tompkins County), which helps reduce the number of people and congestion during the rush hour.

Safety Element

PARKING FACILITIES

Traffic safety is the paramount concern of all ITCTC actions. The areas of traffic distribution, facility design, education, and enforcement emerge as the primary issues.

Transportation generated congestion, noise, vibrations and emissions all contribute to create legitimate health and safety concerns. The use of a variety of traffic calming techniques to “tame” the traffic moving through residential and other built-up areas is accepted practice with many local examples of implementation. The transportation planning profession including NYSDOT, and organizations such as the Transportation Research Board, the Institute of Transportation Engineers and the American Association of State Highway and Transportation Officials have all developed guidelines and positions that allow for the implementation of traffic calming techniques. In rural area with higher speed limits, there are roadway designs and treatments (i.e. safety road markings, clear line of sight, etc.) that can be implemented to improve safety. The ITCTC will continue to support the appropriate application of traffic calming to encourage the development of a transportation system that minimizes the negative impacts of motor vehicles without affecting overall mobility.

Education is a major component of any effort to address traffic safety. The idea of promoting multi-modal transportation, offering skills training, and raising public consciousness levels regarding the presence of different modes, principally pedestrians and bicyclists, are all important. The Ithaca-Tompkins area will work with local partners to continue and enhance existing efforts to reach more of the population. Programs, such as bicycling safety programs in our schools, need to be renewed and pursued with vigor.

Another area of constant concern regarding traffic safety is traffic law enforcement. Speeding traffic is an issue of overwhelming concern. While providing additional traffic control officers sounds like an easy solution, it is generally recognized that the costs of doing so are prohibitive. Technological solutions, such as remote radar “smart signs” and traffic light enforcement systems, might play a role in addressing this issue. Prioritized enforcement actions, based on data collected from traffic counters and vehicular crash and other incident information, offer another potential strategy for targeted enforcement implementation. Traffic calming techniques, mentioned earlier in this chapter, also offer a variety of options to help deal with speeding traffic through roadway design.

Data from the statewide Accident Information Location System (ALIS) is available to New York MPOs. The ITCTC distributes this information and will work with local partners and law enforcement agencies in planning and program development efforts that will lead to increased safety on our roadways.

The Safe Routes to School (SRTS) program, funded through the Transportation Alternatives Program, brings to the forefront issues addressing the relationship of childhood obesity, safety and transportation. In the last ten years, funds from this program have been awarded in the City of Ithaca, Villages of Trumansburg, Cayuga Heights and Dryden and the Towns of Ithaca. The ITCTC will continue to provide data, technical assistance and funding opportunities to promote the safety of pedestrian and bicycle routes to schools in Tompkins County.

State and Regional Safety Planning

Federal legislation requires the Metropolitan Transportation Plan to include a safety element that incorporates or summarizes the priorities, goals and countermeasures or projects for the Metropolitan Planning Area (MPA) as contained in the State Strategic Highway Safety Plan. In addition, this section provides an overview of Federal, State and Local Government’s participation in the development of Tompkins County’s emergency response preparedness. The chapter outlines the general responsibilities of the operational departments and provides a chronology of some key legislation affecting the Tompkins County Comprehensive Emergency Management Plan and related documents. These topics are discussed below in Part I- New York State Strategic Highway Safety Plan and Part II-Tompkins County Emergency Preparedness.

PART I - NEW YORK STATE STRATEGIC HIGHWAY SAFETY PLAN

The purpose of the New York State Strategic Highway Safety Plan (SHSP) is to promote best practices and strategies that, if implemented, could have a substantial impact on reducing fatal and serious injury crashes. Fatal and serious injury crashes have the most profound impact on those involved. The effects of these crashes are far-reaching. Even with reductions in fatalities and serious injuries since the 2010 SHSP, there remains an average of over 1,000 deaths on New York roads annually. The reduction of fatalities and serious injuries remains the primary goal of the New York SHSP. During the 2017- 2022 plan timeframe

partners across the state will seek to reduce the number of fatalities and serious injuries 5-year moving averages by two percent annually.

The Vision Statement of the Tompkins County LRTP organizes its Goals and Objectives under the concept of a Transportation System that is Sustainable and Accessible. Below are LRTP goals and objectives, which demonstrate how the LRTP’s vision of a Sustainable Transportation System relates to the Vision Statement of the New York State Strategic Highway Safety Plan. A complete record of the goals and objectives can be found in the LRTP Chapter 2.

LRTP GOALS

Sustainable Accessibility

Goal: To develop a transportation system for Tompkins County that is safe, sustainable, equitable and efficient resulting in Sustainable Accessibility for all travelers.

Mobility

Goal: To promote implementation of transportation services, programs and projects that enhance mobility.

Connectivity

Goal: To maintain and improve transportation networks to enhance safety, multimodal and intermodal connectivity and facilitate the movement of people and goods.

Proximity

Goal: To achieve land development patterns that enable the efficient and equitable provision of multimodal transportation services.

Integration

Goal: To develop an integrated transportation system for Tompkins County that is seamless, multimodal and coordinated to achieve greater operational efficiencies and increase the safety and convenience of users.

Quality Of Life

Goal: Develop a transportation system that sustains and enhances the quality of life for Tompkins County residents and visitors.

Environment

Goal: To work progressively towards a transportation system that will have zero-net negative impact on the environment.

Equity

Goal: To achieve equity in transportation policy and projects that spur fundamental improvements in communities across Tompkins County.

LRTP PERFORMANCE PLANNING OBJECTIVES

The LRTP includes a series of measurable safety, infrastructure and system reliability objectives that directly and indirectly will help promote and measure transportation safety progress in Tompkins County. These include:

- Reduce the number of motor vehicle crash fatalities and severe injuries
- Reduce the number of bicycle and pedestrian crashes
- Reduce the number of bicycle and pedestrian fatalities and injuries
- Reduce the percentage of structurally deficient bridges
- Reduce the percentage of roads in ‘fair or poor’ condition
- Increase the provision and access to multiple transportation options

Measuring and locating motor vehicle, bicycle and pedestrian crashes, fatalities and injuries will assist in planning to make targeted safety improvements. The ITCTC reviews available data and compiles summaries and maps that are shared with staff from municipalities and are published on the agency’s website.

Continuous maintenance of bridges and pavements is important in reducing infrastructure factors in crashes. Providing more and enhanced transit, bicycle and pedestrian facilities will also serve to more safely

OVERARCHING GOALS THAT PERVADE ALL THE GOALS AND POLICIES:

1. Improve the safety of the transportation system.
2. Enhance coordination between transportation providers to the benefit and convenience of users.
3. Minimize negative environmental impacts of transportation.
4. Reduce vehicle miles of travel and number of drive-alone trips.
5. Ensure equitable availability of mobility options

accommodate these important modes in the transportation network.

PART II-TOMPKINS COUNTY EMERGENCY PREPAREDNESS

Organization Description

The County's emergency management program is a three-pronged effort implemented by the County's Department of Emergency Response, the County's inter-agency Emergency Management Planning Committee and its internal Emergency Management Strategic Group. The ITCTC fully supports the work of these groups and their efforts to address the emergency response needs of Tompkins County. The emergency management program is further described below.

Department of Emergency Response

The Department holds responsibility for managing the county's emergency dispatch and communications system, implementation of the county's 911 communications system, oversight of county mutual aid and disaster plans, and training and development of emergency medical and fire personnel. In addition, the Department provides Emergency Preparedness information to the public including development and maintenance of the Tompkins Ready website - www.tompkinsready.org.

The Tompkins County Emergency Planning Committee (TCEPC)

The TCEPC was established by resolution of the Tompkins County Legislature in 2000. Its mission is to facilitate the planning process for emergency management of disaster responses and to assist with operations during times of local emergencies. The committee is composed of representatives of county government, city government and other local response agencies. Its responsibilities include identifying appropriate local measures and resources to prevent disasters, developing mechanism to coordinate local resources, and delivering services to aid citizens during and after disasters. Among the Committee's responsibilities, are to annually update the Tompkins County's Comprehensive Emergency Management Plan. A diverse team of individuals and local agencies participate in support of TCEPC and the County's emergency management programs.

The Emergency Management Strategic Group

The Emergency Management Strategic Group chaired by Deputy County Administrator and is an internal team of County department staff, focusing on readiness issues within county government and related to maintaining services in the event of an emergency. Responsibilities involve assessment of the county government infrastructure, internal countywide emergency planning and developing a workforce emergency management plan.

Background

Federal and State agencies and their rules provide support and mandates for Tompkins County emergency management efforts. The Federal Emergency Management Agency's (FEMA) mission is to support citizens and first responders to ensure that the nation works together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. The New York Division of Homeland Security and Emergency Services (DHSES), previously the Office of Emergency Management, serves as the lead state agency responsible for the maintenance and 5-year update of the State Hazard Mitigation Plan (SHMP). This plan was last updated and approved by FEMA on December 2018 (www.mitigateny.availabs.org). The 2019 New York State Hazard Mitigation Plan represents the State's approach to mitigating the adverse impacts of natural disasters within its borders and to fulfill its Federal obligations to mitigate the risks resulting from natural hazards.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, enacted by Section 104 of the Federal Disaster Mitigation Act of 2000 (DMA2K) provided new emphasis on mitigation planning. Operationally, Hazard Mitigation is defined as the process whereby hazards are identified, risks and vulnerabilities are quantified, risk elimination or reduction measures are identified, awareness is created, and cooperative efforts are undertaken to prevent, reduce or eliminate losses.

The DMA2K emphasizes the need for State and Local governments to closely coordinate mitigation planning and implementation efforts as well as continuing the requirement for a State Mitigation Plan as a condition of disaster assistance. This plan is also intended to serve local jurisdictions as a guide in completing and updating natural hazard mitigation plans that will meet the requirements set forth in DMA2K. To be eligible for future disaster mitigation funding, FEMA requires that all local governments have an approved Federal hazard mitigation plan. Tompkins County completed the Tompkins County Hazard Mitigation Plan (www.tompkinscountyny.gov/planning/community-planning), which was approved by FEMA in 2014. The plan covers all jurisdictions in Tompkins County. This document will be updated by the end of 2020. The new plan will be expanded to cover other disaster recovery components in addition to hazard mitigation. The propose new plan will be covered in the Tompkins County Resiliency and Recovery Plan.

Financial Element

INTRODUCTION

A difficult part in any planning process involves estimating and forecasting financial resources, particularly when working with a long planning horizon. This is also complicated when funding is dependent on the political process. The federal transportation program is vulnerable to political and procedural vagaries, where a legislative body sets one level of funding (“authorized”) but may appropriate a lesser amount or change funding levels with other legislation. Given the unpredictability of the funding process, inflation and other economic factors, it is difficult to make accurate annual projections, and impractical when projections are forecasted for twenty years. In addition, the multi-agency/governmental arena of an MPO makes it difficult to determine exact equivalences of diverse funding streams.

This financial element will focus on the transit and highway federal funding resources that are managed by the ITCTC and which are eligible for use in federal-aid projects. Federal funds are available for federal-aid highways and transit. It is important to note that federal transportation expenditures are only part of the total resources assigned to transportation. Municipal, County and State governments utilize significant amounts of their resources to maintain, operate and expand non-federal aid eligible transportation networks and facilities within their jurisdictions.

This financial analysis is largely based on a continuation of the priority guidance to “preserve existing facilities”. The analysis is based on past revenue and expenditure levels and does not attempt to incorporate fundamental cost changes that may result from the implementation of this plan. For instance, implementing some measures may lead to increased governmental expenditures (e.g., computer models,

TIP YEARS	APPROXIMATE TOTAL FHWA FUNDING
2007-2012	\$53 million
2011-2015	\$49 million
2014-2018	\$24.5 million
2017-2021	\$26.2 million
2020-2024	\$33.7 million

computerized traffic signals, real-time transit information, new and improved bicycle/pedestrian facilities, etc.), but may also result in reduced societal and actual costs (e.g., reduction in the costs of congestion, improved air quality, improved personal health, reduced traffic accidents, injuries and fatalities, etc.). Others may lead to decreased government expenditure (e.g., prioritized snow removal plans, local roadways built to more modest design standards, less rigorous maintenance practices,

etc.), but may lead to other undetermined costs. This type of comprehensive, cumulative analysis is beyond the scope of this plan.

RESOURCE ESTIMATION

Information on fiscal resources was gathered from four sources: the New York State Department of Transportation, Tompkins Consolidated Area Transit, Tompkins County and ITCTC records. In all cases resources were estimated to the 20-year planning horizon based on historical funding trends that are reflective of variations and inflationary forces.

At the time of this writing, federal funding for transportation is in a period of transition. The U.S.Congress is debating the best way to fund the federal transportation program in the long term. In the meantime, total FHWA funding has changed as follows:

Appropriations nationwide and thus, locally, are substantially below levels from 10 years earlier. By using the latest TIP figures to build the plan budget we are certain to be working with fiscally conservative scenarios. Most figures in this analysis are rounded for ease of use.

The calculations for this financial element are based on highway and transit federal funds that flow through the ITCTC. The basic source is the 2020-2024 TIP, which as mentioned above, will give us a fiscally conservative base for our future estimates. Annual average programmed federal funds and their local and state matches were calculated. For highway projects future year estimates were determined applying varying inflation rates. The average Consumer Price Index (CPI) for the 15-year period from 2003-2018,

2.10%, was used for the first five years 2020-2024. This inflation rate was reduced to 2.00% for the following 5 year period, and by .5% every five years through 2039. The purpose of this reduction is to mitigate the compounding effect of using the same inflation rate for 20 years. This is particularly important in a region like Tompkins County which has a very moderate rate of population growth and minimal highway network expansion rates.

As a final step in the 20-year projections the analysis includes a present value calculation that reflects 'year of expenditure' dollars for the funding resource projections. The sections below describe the estimated federal resource projections and their accompanying state and local matches.

FEDERAL AID RESOURCE PROJECTIONS

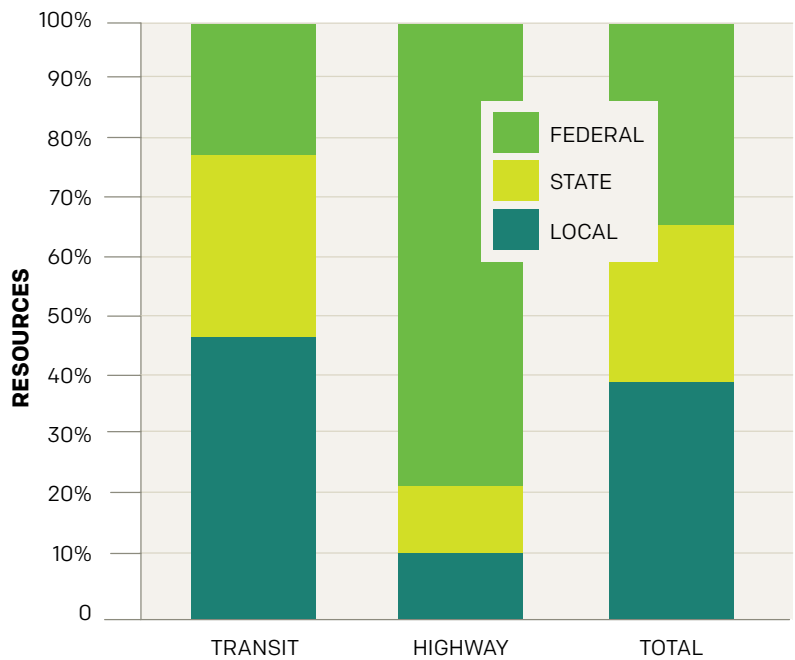
Highway

Federal aid for highway programs was estimated at \$155.4 million after applying CPI and year of expenditure calculations. This figure is based on the approximately \$6,700,000 per year that were programmed in the 2020-2024 ITCTC TIP. This figure incorporates projects that are funded outside the regional formula allocation to the ITCTC in programs such as, the Transportation Alternatives Program, Bridge-NY and the NY Pedestrian Safety Action Plan. These funds were included in the annual TIP funds at the rate of approximately \$1.6 million per year to reflect their availability.

Local Resource Projections

A 20-year projection of local resources for federal aid highway transportation projects were developed based on annual funding of approximately \$851,562 per year programmed in the 2020-2024 TIP. In addition, private sector contributions were estimated at approximately \$1,700,000 over 20 years. Private contributions are transportation funds that originate from non-governmental sources. The estimated number was calculated by setting the private contributions to 10% of the local resources in the TIP. Private contributions are most common in the form of participation in the local share of federally funded projects and are often in-kind in nature. This component of project funding may see substantial change in future years. Crowd sourcing and other technology-based strategies can be used to help expand the private sector contributions in the future, where already a variety of fundraising strategies have been used to help supplement municipal contributions to the local share of certain projects. The resulting total local resource projection after applying CPI and year of expenditure calculations is

2020-2039 SUMMARY OF ESTIMATED FEDERAL TRANSPORTATION RESOURCES



FEDERAL HIGHWAY AND TRANSIT RESOURCE ESTIMATE 2020-2039

FUNDING PROGRAM	LOCAL	STATE	FEDERAL	TOTAL
NATL. HIGHWAY PERFORMANCE PROGRAM - NHPP	\$ 8,923,502	\$ 7,765,116	\$ 63,739,622	\$ 80,428,240
SURFACE TRANSPORTATION BLOCK GRANT FLEXIBLE - STBG-FLEX	\$ 6,311,745	\$ 5,492,399	\$ 45,084,123	\$ 56,888,267
HIGHWAY SAFETY IMPROVEMENT PROGRAM - HSIP	\$ 1,523,525	\$ 1,325,751	\$ 10,882,375	\$ 13,731,651
TRANSPORTATION ALTERNATIVES PROGRAM - TAP	\$ 1,741,171	\$ 1,515,144	\$ 12,436,999	\$ 15,693,315
OFF-SYSTEM BRIDGE - STBG-OSB	\$ 3,264,696	\$ 2,840,896	\$ 23,319,374	\$ 29,424,966
HIGHWAY PROGRAM SUB-TOTAL¹	\$ 21,764,639	\$18,939,306	\$155,462,439	\$196,166,439
<i>% of Highway</i>	11.09%	9.65%	79.25%	
TRANSIT²:				
SECT. 5307 – URBAN FORMULA (CAPITAL)	\$ 5,039,345	\$ 5,039,345	\$ 40,314,762	\$ 50,393,452
SECT. 5339 – DISCRETIONARY CAPITAL	\$ 1,099,082	\$ 1,099,082	\$ 8,792,655	\$ 10,990,819
SECT. 5339 – FEDERAL COMPETITIVE ³	\$ 4,033,750	\$ 4,033,750	\$ 32,270,000	\$ 40,337,500
SECT. 5310 – PARATRANSIT (CAPITAL)	\$ 800,000	\$0	\$ 3,200,000	\$ 4,000,000
SECT. 5311 – RURAL CAPITAL	\$ 3,121,501	\$ 3,121,501	\$ 24,972,008	\$ 31,215,010
SDF – STATE DEDICATED FUNDS (CAPITAL)	\$ 0	\$ 30,631,913		\$ 30,631,913
TOMPKINS COUNTY MORTGAGE REPORTING TAX⁴	\$ 14,487,247	\$ 0	\$ 0	\$ 14,487,247
SUBTOTAL TRANSIT CAPITAL	\$ 28,580,926	\$ 43,925,591	\$109,549,424	\$ 182,055,941
TRANSIT OPERATIONS*	\$289,961,608	\$167,096,520	\$ 34,402,225	\$491,460,352
TRANSIT SUB-TOTAL	\$318,542,533	\$211,022,111	\$143,951,649	\$673,516,293
<i>% Of Transit</i>	47.30%	31.33%	21.37%	
TOTAL TRANSPORTATION	\$340,307,173	\$229,961,417	\$299,414,142	\$869,682,732
<i>% Of Total</i>	39.13%	26.44%	34.43%	

Sources and Notes:

¹Based on distribution of funding categories in the 2020-2024 Transportation Improvement Program. Includes estimates for Transportation Alternatives Program and other competitive award programs (BridgeNY, PaveNY, PSAP-HSIP).

²Source: Tompkins Consolidated Area Transit and Tompkins County

³Incorporates costs of new/expanded TCAT facility at \$30million

⁴Mortgage Reporting Tax (MRT) estimated at \$708,000 per year increasing 1% per year after 10 years.

*Funds for Transit Operations come from the following sources:

- Local: – fare revenue+MRT+local subsidy -- based on 2019 adopted TCAT budget, increasing at 3%/yr. first ten years & 2.5%/yr. thereafter.
 - Gadabout 2019 budget increasing 3% per year
- State: – New York State Transit Operating Assistance
- Federal: – Section 5307 funds (includes transfer from 5311 to 5307)
 - Special Community Mobility Projects (SCMP)

\$21.7 million.

NY State Resource Projections

The NY State TIP based contributions to federally funded projects in Tompkins County average approximately \$815,000 per year. This amounts to approximately \$18.9 million over 20 years after applying CPI and year of expenditure calculations.

Transit

TCAT and Tompkins County, the designated FTA grant recipient, provided the information required to develop the transit estimates. The local and State “matching” contributions to these funds were calculated based on current program requirements. The FTA Section 5307 (urban area transit service) figures for capital and operating assistance were based on actual Federal Fiscal Year 2019 figures. The State Dedicated Funds (SDF)-Capital funds were calculated based on actual 2019 funds. The estimates from TCAT reflect the most recent changes in funding formulae and appropriate fund levels.

Summary

In summary, for the 2020-2039 planning horizon, local resources are estimated to provide 47% of the transit funds, 11% of the highway funds, and 39% of the total federal transportation program funds. State resources are calculated at 31% of the transit funds, 9.6% of the Highway funds, and 26% of the total federal program funds. Federal government funds are estimated to contribute 21% of the transit funds, 79% of the highway funds, and 34% of the total federal transportation program funds.

EXPENDITURE ESTIMATION

The estimation of expenditures is based on several factors. Due to the flexibility included in federal transportation legislation, it is expected that funds will be transferred between programs to best meet the expenditure demands of the area. This section does not attempt to differentiate federal from state from local fund sources, nor does it address project level details of the distribution of different federal fund categories. That information is presented in detail in the ITCTC’s Transportation Improvement Program.

A clear division between “transit” and “highway” projects has been maintained since this distinction continues to be in effect in federal transportation funding. These estimates are based on “historic trends” which are subject to variables such as annual state and federal appropriations. Transit expenditure allocations were based on expenditures proportions utilized by TCAT. The Capital Facilities include projects with a high probability of implementation.

No attempt has been made in this plan to allocate costs by individual project year. The expenditures reflect ‘year of expenditure dollars’ based on the analysis used above under Resource Estimation. The accompanying table provides a summary of the estimated expenditure allocations.

Highways

Federal and state highway funds were distributed one-third to bridges, one-third to pavement projects. The last third of distributed to cover safety (approximately 10%) and mobility projects (approximately 24%). Transportation Alternatives Program funds and other competitive funding, such as Bridge NY and Pave NY, are included as part of the annual average calculations. This proportion in the distribution of funds adequately reflects plan goals and continues a pattern used in previous long-range plans.

The proposed expenditure allocations support LRTP goals to maintain existing transportation infrastructure, with two thirds of projected federal funds allocated to bridge and pavement maintenance projects. The aim of the bridge and pavement programs is to maintain and improve the condition of the highway infrastructure.

Increased safety has been a priority of the ITCTC since its initial LRTP. Even so, few projects get funded exclusively from surface transportation program “safety” funds. This, however, does not detract from the importance of the safety focus in the ITCTC program. The fact is that safety features are designed and constructed as principal or incidental aspects of nearly every type of transportation project. This plan includes an allocation of highway funds for safety projects at approximately 10% of the total transportation program. While this may underestimate the “needs” for safety improvements, it also under-represents the commitment and investment to safety that is part of every TIP project.

The LRTP goals and vision strongly recommend the need to expand mobility options in Tompkins County. This emphasis will help meet multiple energy efficiency, emissions reduction and sustainable accessibility goals and objectives.

Funds under mobility projects are intended to be used for Transportation System Management (TSM) activities (e.g., signal synchronization, traveler information systems, traffic circles, bike lanes, “flex” to transit, etc.); for expansion of multimodal facilities and programs (primarily bicycle, pedestrian and transit); and for the implementation of transportation demand management and transportation mobility programs such as ridesharing, car sharing, vanpools, back-up/emergency ride home, Mobility as a Service, etc. Implementation of these transportation strategies coupled with more efficient land use development patterns provide a framework for long-term sustainable transportation in Tompkins County.

Transit

Estimated expenditures generally follow the expenditure patterns found in the current TCAT transit system. Operating and maintenance expenditures make up the bulk of transit expenses.

Capital Facilities: This category includes funding for TCAT facility rehabilitation, and replacement of passenger facilities and shelters. Funds have also been included to account for the anticipated relocation or expansion of the Tompkins County Transit Center. The estimate for capital facilities, particularly the transit center initiative, assumes TCAT will be successful in getting funding from different non-formula Federal sources (i.e. competitive grant programs).

Operating: The total operating budget estimate reflects an annual growth rate of 3%/year over the first 10 years and 2.5%/year over the last 10 years of the 20-year planning horizon. The Operating projections include all aspects of operations of transit service including administrative costs. This is, by far, the largest expenditure category for transit.

Maintenance/Miscellaneous: This category includes vehicle and facility regular maintenance plus a variety of projects that may range from short-range planning to implementation of special transit projects; from communications and data processing equipment replacements to improved signage.

Buses: The ‘buses’ estimate includes urban, rural and paratransit buses operated by TCAT, its contractors, and GADABOUT. The resources estimate for purchasing buses includes purchases for GADABOUT under the Section 5310 program. The estimate for bus acquisition assumes TCAT will be successful in getting funding from different non-formula Federal sources (i.e. competitive grant programs). Further, the estimate

assumes regular allocations from the New York State Dedicated Transportation Fund.

TCAT's most significant long-term funding challenge is securing capital funding. This is the case for specific projects like the transit center initiative, but it is also a recurring challenge when addressing the need for replacement buses. The size of TCAT's bus fleet requires capital funding at a level that far exceeds its annual urban formula allocation (Sec. 5307). Therefore, TCAT must compete for discretionary capital funding from federal and state programs. The cost of not being able to replace buses in a timely fashion is reflected in the high maintenance costs of an aging bus fleet. As part of its strategic planning, TCAT with local partners

ESTIMATED FEDERAL FUNDING EXPENDITURE ALLOCATIONS 2020-2039

PROJECT TYPE	EXPENSE ALLOCATION	PERCENT OF TOTAL*	PERCENT OF CATEGORY*
HIGHWAY			
BRIDGE	\$ 64,734,907	7.4%	33.0%
PAVEMENT	\$ 64,734,907	7.4%	33.0%
SAFETY	\$ 19,616,638	2.3%	10.0%
MOBILITY PROJECTS	\$ 47,079,945	5.4%	24.0%
SUBTOTAL	\$196,166,384	22.6%	100.0%
TRANSIT			
CAPITAL FACILITIES	\$ 72,822,376	8.4%	10.8%
OPERATING	\$491,460,352	56.5%	73.0%
MAINTENANCE/MISC.	\$ 72,822,376	8.4%	10.8%
BUSES	\$ 36,411,188	4.2%	5.4%
SUBTOTAL	\$673,516,293	77.4%	100.0%
TOTAL	\$869,682,732	100%	

*Discrepancies in the figures are due to rounding errors

identify strategies for funding replacement buses, bus rehabilitation and re-manufacturing.

CONCLUSIONS

Funding transportation programs in Tompkins County is all about collaborations and partnerships. Over the decades programs like Gadabout, TCAT, Ithaca Carshare, Way2Go, Finger Lakes Rideshare and others have been created by bringing together government agencies, institutions of higher education, civic groups and interested citizens to work on solutions. As a result, Tompkins County offers an unusually rich menu of transportation options for a small upstate NY urban area.

Despite its size, and missing the economies of scale of larger urban areas, Ithaca-Tompkins County transportation providers and planners have worked together to improve service efficiency and take advantage of all available funding opportunities. The ITCTC will continue to lead in efforts to forge strong partnerships and coalitions in the transportation sector.