Chapter 4: Infrastructure

INTRODUCTION

***Infrastructure** plays an important role in enhancing community sustainability. Infrastructure can be defined as "the underlying foundation or basic framework; the system of public works of country, state, or region; the resources (such as personnel, buildings, or equipment) required for an activity".*[1]

The infrastructure of a region includes the built-environment (schools, post offices, emergency stations, etc.), as well as transportation facilities (highways, bridges, roadways, airports, canals, etc.), public works (sewer, water, and waste systems), telecommunication networks (cell towers, telephone lines, cable networks, etc), and the energy grid (both generation and distribution). Infrastructure is inextricably tied to many of the areas of concern for sustainability – human health, environmental systems, air and water quality, and economic vitality. A region's infrastructure plays a critical role in influencing land use, environmental resources, and economic development opportunities.

Infrastructure is constantly being invented, reinvented, improved, and repaired and, in effect, we are building the infrastructure of 2030 today. Given the expected useful life of civil infrastructure, the roads, bridges and water treatment plants we build today are expected to provide service for 30-50 years. In order to affect the sustainability landscape of 2030, regions need to be able to influence the way that civil infrastructure is designed, constructed and operated today.

According to the American Society of Civil Engineers' (ASCE's) 2009 Infrastructure Report Card, the nation's existing infrastructure is in a poor state of repair, earning an overall grade of "D". Not only does the Report Card point out serious deficiencies, it emphasizes the need for investment. [2]

The report card identified three key infrastructure concerns for New York State as a whole: Bridges, Roads, and Mass Transit. Notably the report identified $21.82 billion in wastewater infrastructure needs, $14.81 billion in drinking water infrastructure needs over the next 20 years, and that forty-two percent of New York's bridges are structurally deficient or functionally obsolete. The report also identifies that there are 391 high hazard dams in New York State (defined as a dam whose failure would cause a loss of life and significant property damage) and that thirty-six percent of high hazard dams have no emergency action plan (EAP).[3]

Overview of Central New York's Infrastructure

A well-developed network of state and interstate highways traverses the Central New York region, as does a system of freight and passenger rail service, making the region a transportation hub within New York State. The region's transportation network also includes Hancock International Airport, the deep water Port of Oswego, a CSX intermodal rail center, and a public transportation bus service maintained by the CNY Regional Transportation Authority.

The region's road network is mature, no major expansions of the system are currently envisioned, and requires substantial investment to maintain a state of good repair for today and future generations. Some major components of the regional network of highways, most notably the I-81 viaduct in downtown Syracuse, are reaching the practical reaches of their design life. Continued funding for the maintenance of roads and bridges throughout the region is a significant challenge. In light of the current fiscal challenges at the local, state, and national levels, the region may need to divert any funding for improvements or expansions of the transportation network to simply rebuild the existing system.

The region is served by an extensive network of public sewer and water facilities, which includes a major water supply transmission line from Lake Ontario that is provided by the Metropolitan Water Board and the Onondaga-County Water Authority. Energy services are provided by the New York Power Authority, several private utility companies including National Grid, New York State Electric and Gas, and Rochester Gas and Electric, and a handful of municipal utilities.

The region is also served by an advanced telecommunications system that is provided by such major service providers as Verizon, Time Warner, and AT&T. Onondaga County is the telecommunications hub for the Central New York region and is served by an extensive network of fiber optic transmission and distribution routes. There are 9 major fiber carriers, served by a centrally located "carrier hotel" and other carrier points of presence in downtown Syracuse, as well as an extensive network of central offices (67). In addition, there are over 600 cell tower locations in the region.

BASELINE CONDITIONS TRANSPORTATION

The historic development patterns of villages and cities within Central New York are conducive to pedestrian and bicycle mobility. Traditional street grids intermingled with an organic web of roads help to create a pattern of relatively short blocks that make it easy to navigate on foot between multiple destinations. Known as **connectivity**, these road systems have many short links, numerous intersections, and minimal dead-ends which allows for more direct routes between destinations.

At the same time, for the past 60 years in Central New York, as in the balance of the U.S., primacy has been given to the movement of private vehicular traffic on the region's road network. In many instances this overriding strategy has undermined the traditional character of the region's historic communities. Rural hamlets, small villages, and cities large and small have all succumbed to the pressure to widen roads, prioritize vehicular traffic, and to build box chain stores with ample parking. The result has been to devalue the historic infrastructure of dense downtown districts that supported community and economic life throughout at least the first half of the 20th century.

Yet, these traditional patterns of street networks have found a resurgent interest as development trends have turned back towards the centers of existing communities. The Cities of Syracuse, Oswego, and Auburn, as well as villages like Baldwinsville, Hamilton and Marcellus within the region have witnessed new construction projects as well as the rehabilitation of historical warehouses and commercial buildings into offices, lofts, and retail spaces.

In support of these newfound development pressures, communities have begun to develop strategies for maximizing mobility options through improving pedestrian, cycling, and transit options. At the same time, according to data from the 2010 U.S. Census, total commuting trips by cycling and walking combined are less than 5%, with an additional 2% of trips on public transportation.

The Central New York transportation system is heavily reliant on the single occupancy vehicle. Between 2000 and 2007 the amount of Vehicle Miles Traveled (VMT) in the Central New York Region increased by 12 percent. This increase resulted in Onondaga County residents driving almost 7.5 miles a day more than their statewide counterparts.[4] The region ranked 9th in automobile-based emissions at 1.333 metric tons

per person and 33rd out of 100 metropolitan areas in highest per capita carbon footprint at 2.682 metric tons.[5] Vehicle miles traveled (VMT) has increased 43% over the last 20 years. Residents of the Syracuse metro area drive more miles per capita than any other metro area in New York State with the exception of the Capital District; 17% more than Rochester; and 8% more than Buffalo-Niagara Falls. Only 2% of the region's residents use public transportation to get to work.[6]

TABLE 1–Vehicle miles traveled 2009

Source: NYSDOT HPMS Data - 2009

Location	Daily Vehicle Miles Traveled DVMT (1,000)	Yearly Vehicle Miles Traveled YVMT (DVMT*365)	Total Population (2010 Census)	YVMT/ Capita (1,000)
Cayuga	2,006	732,190	80,026	9.15
Cortland	1,687	615,755	49,336	12.48
Madison	2,160	788,400	73,442	10.74
Onondaga	12,828	4,682,220	467,026	10.03
Oswego	3,138	1,145,370	122,109	9.38
CNY Region	21,819	7,963,935	791,939	10.06

DVMT was estimated using data from a sampling of traffic counts in each area. Please note that traffic count adequacy or currency maybe an issue on lower functional class facilities.

The primary mode of transportation for the region's residents is the passenger vehicle, with the U.S. Census indicating that more than 79.4 percent of the labor force drove alone to work in 2010. Another 9.4 percent rode together in carpools, 1.9 percent used public transportation, and 4.9 percent bicycled or walked to work. Non-automobile trips are largely made up of residents within the City of Syracuse, as well as other small cities within the region, where conditions are more suited to walking, bicycling and transit.

This trend may become increasingly less attractive as transportation fuel costs and infrastructure maintenance costs continue to rise and as the negative effects of increased traffic congestion, air pollution and reduced quality of life become felt by residents. Additionally, automobiles and trucks contribute significantly to the region's GHG emissions, air pollution, and problems with the contamination of stormwater run-off. The Vision CNY plan must, then, consider the significant impacts of the transportation system on the natural environment.

The presence in the region of major rail and shipping facilities, as well as the Syracuse Hancock International Airport and other regional airports will provide important opportunities for reducing greenhouse gas emissions associated with the movement of freight in and out of the region.

TABLE 2–Transportation – Overall – Total percentage of people commuting via walking, biking, transit, and carpooling

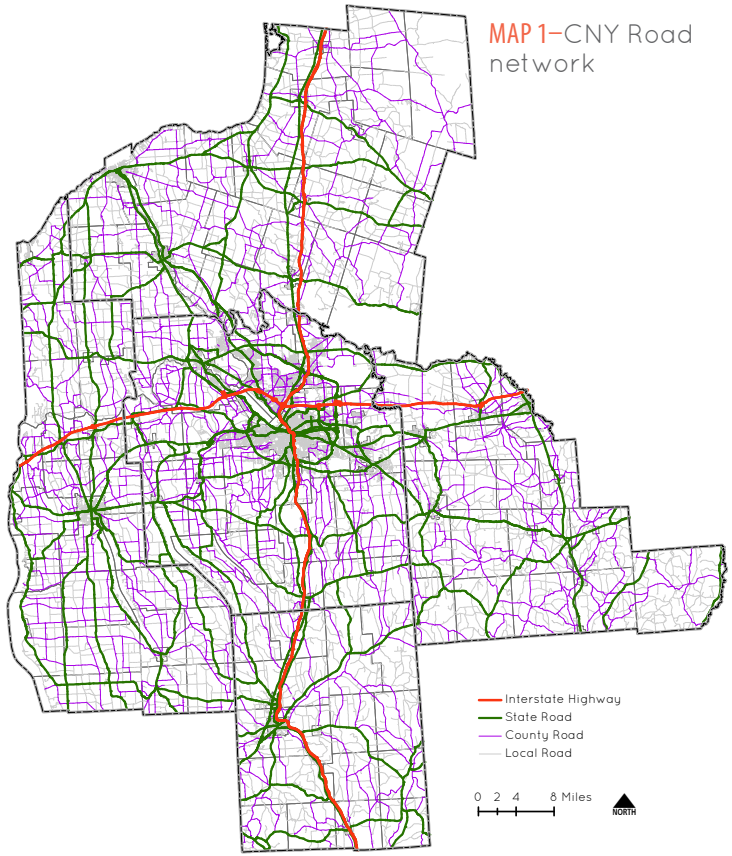
Location	Total Workers	Total Car, Truck, Van drove alone	Total -Car, Truck, Van - Carpooled	Total Public Transport	Total Walking	Total Bicycle
Cayuga County	36,799	29,130	3,703	476	1693	74
	%	79.2%	10.1%	1.3%	4.6%	0.2%
Cortland County	22,318	17,432	2,089	187	1250	89
	%	78.1%	9.4%	0.8%	5.6%	0.4%
Madison County	33,203	25,956	3,021	167	1693	133
	%	78.2%	9.1%	0.5%	5.1%	0.4%
Onondaga County	216,202	172,184	19,702	5,781	9080	1081
	%	79.6%	9.1%	2.7%	4.2%	0.5%
Oswego County	52,719	42,184	5,442	357	2531	105
	%	80.0%	10.3%	0.7%	4.8%	0.2%
CNY Region	361241	286886	33957	6968	16247	1482
	%	79.4%	9.4%	1.9%	4.5%	0.4%

Fundamentally the region must continue to work together to protect and enhance our existing historic assets and infrastructure, creating the foundation for a sustainable future.

Road Network

The Central New York region encompasses approximately 10,548 centerline miles of roads, thirty-four percent of the system is within the Syracuse Metropolitan Transportation Council (SMTC) Metropolitan Planning Area (MPA)[7] (approximately 3,534 centerline miles of roads), with an additional 7,013 centerline miles of roads located outside of the MPA but within the five County CNY RPDB region. The roads are owned and maintained by various jurisdictions including the New York State Department of Transportation (NYSDOT), the New York State Thruway Authority (NYSTA), the Onondaga County Department of Transportation (OCDOT), the City of Syracuse, the smaller cities of Auburn, Oswego, Fulton, Cortland, and Oneida, as well as the towns and villages within the region.

MAP 1–CNY Road network



The NYSDOT and the NYSTA own approximately 15.1 percent of the system (which equals about 1,592 centerline miles). The NYSDOT system contains the majority of the main commuter routes. Other key jurisdictional ownerships in the MPA are the OCDOT and City of Syracuse. OCDOT is responsible for 7.6 percent of the system (803.20 centerline miles) and the City of Syracuse is responsible for 4.1 percent of the system (420.71 centerline miles).

The region's road network is substantially mature; there have been minimal new capacity projects and system additions in recent years. The majority of money spent on the New York State Transportation Improvement Program (STIP) from the Federal Highway Administration (FHWA) is used for **maintaining the existing road network (see Table 3).** As the table below demonstrates a significant portion of the overall spending on the regional road network takes place within Onondaga County. The dollars shown are for specific projects within the region, and do not include those for general maintenance (i.e. paving and milling or striping).

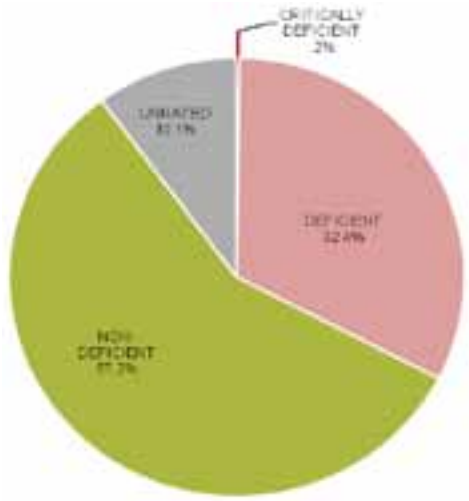
TABLE 3–NYS Transportation Improvement Program Spending in Central New York

	Dollars Spent (in millions)		
County	Federal	State/Local	Total
Cayuga	18.027	4.366	22.393
Cortland	13.578	2.491	16.069
Madison	2.28	0.619	2.897
Onondaga	173.182	50.9379	224.1199
Oswego	34.314	7.82	42.134
CNY Region	241.379	66.2339	307.6129

There are examples of system expansion, for example, roughly 61 miles of new road, primarily residential streets, were constructed within Onondaga County over the past decade.[8] Though this expansion represents less than one percent of the entire regional road network, it occurred during a period of negative population growth. As the cost of maintaining existing infrastructure rises, expansion of the road network in the face of a declining population is not advisable.

The condition of bridges in the region has been a critical funding issue for a number of years, this is apparent from a review of the State Transportation Improvement Program. 2012 data from NYS DOT indicates that roughly two-thirds of the over 19,800 bridges in Central New York are classified as deficient (meaning that a bridge is a candidate for rehabilitation, replacement, or even closure) and that forty-four of those bridges are critically deficient (meaning that a bridge is given priority for funding for rehabilitation, replacement, or even closure). The percentage of bridges that are deficient along with the limited amount of money available for funding improvements has made bridge repair a key improvement area noted by the NYSDOT.

FIGURE 1– Bridge conditions in Central New York, 2011



There are a large number of interstate bridges that also need repair within the same timeframe because many are of the same age. **Specifically, there are 124 bridge spans on the I-81 viaduct alone that will need to be addressed within the next decade.** While a significant effort has been made in the last decade to remedy this problem, many bridges still are in need of repair and compete for a limited amount of federal money.

According to the American Association of State Highway and Transportation Officials (AASHTO), a dollar spent to keep a road in good condition avoids $6-14 later to rebuild the same road once it has deteriorated. In addition, poor roads add an average of $335 to the annual cost of owning a car due to damaged tires and suspensions and reduced fuel efficiency.[9] Prioritizing system preservation will save taxpayers hundreds of millions of dollars, while improving road and bridge conditions. The investment in maintaining infrastructure will also pay off in jobs. Numerous studies find that maintenance and repair creates even more jobs than building new roads. Sixteen percent more person-years of construction jobs are created for every dollar spent on fixing existing highways when compared to new road construction.[10]

A strategy that prioritizes investment in repair and maintenance rather than expansion of road networks can discourage the continuation of low-density development patterns. Past development patterns caused regions throughout Upstate New York to spend ever-increasing amounts on infrastructure and service extensions, adding increased fiscal burdens during a prolonged period of population decline. Avoiding road expansions and extensions benefits rural areas by protecting open spaces, working farms, and the state's watersheds.

THE I-81 CHALLENGE

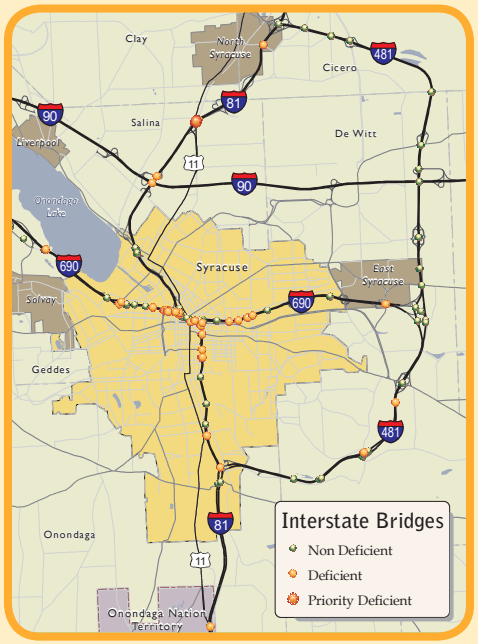


FIGURE 2–Interstate Bridge Conditions - I-81 Challenge

Pavement and bridge condions are determined by periodic inspections conducted by NYSDOT. A NYSDOT surface rating survey completed in 2008 found the majority of the pavement in the primary study area to be in "good" condition.

Of the 76 bridges located along I-81 and I-690 in the primary study area:

- 60% (46 of 76 bridges) are classified as "funconally obsolete," meaning the lane widths, load carrying capacity, clearance, or approach roadway alignments do not meet current bridge standards. Eighteen of these bridges are located in the viaduct section of I-81.
- 9% (7 of 76 bridges) are classified as "structurally deficient" meaning they are in need of rehabilitaon, are restricted to light vehicles, or subject to closure. One of these bridges is located in the viaduct section of I-81.

I-81 was built in Onondaga County during the 1950s and 1960s. Now that the road is almost 50 years old, portions are nearing the end of their lifespan.

This is particularly true of the 1.4 mile elevated section of I-81 in downtown Syracuse, known as the viaduct. Over the next decade, these portions of the road will need to be replaced, reconstructed, removed, or otherwise changed. The official decision-making process designed to find a solution for the future of I-81 is called *The I-81 Challenge*.

The I-81 Challenge is being led by two entities, the SMTC and the NYSDOT, and is composed of three separate but integrated efforts:

- *The I-81 Corridor Study* – The Corridor Study, being led by NYSDOT, includes a review of the highway's existing conditions, identification of existing and future issues, and an analysis of potential options (including those suggested by the public) for the future of the corridor.
- *The I-81 Public Participation Program* – The I-81 public involvement effort, being led by the SMTC, is designed to give residents of the City of Syracuse and Onondaga County a place to learn about I-81 and voice their ideas about future options.
- *Travel Demand Modeling Effort* – The I-81 travel demand modeling, being led by the STMC, is a technical project in which the SMTC will use computer simulation to see how future options affect the transportation network.

Over the next several years, *The I-81 Challenge* will advance the community discussion that has already started about the future of I-81. Information about the existing conditions of the highway and the regional transportation system has been collected. This information has been shared with the public, and the NYSDOT and the SMTC have involved the public in developing a set of values, goals, and ideas for the future of I-81. All of this information will be used to generate a wide range of options for the future of the highway and a set of criteria for evaluating them. The broad range of options will be narrowed down to a small number of viable alternatives through a combination of technical analysis and continued public involvement. Later, the viable alternatives will be refined and analyzed in further detail and a formal environmental review process, including official hearings, will begin. That process will ultimately lead to a decision, and to a project or projects that can be implemented.

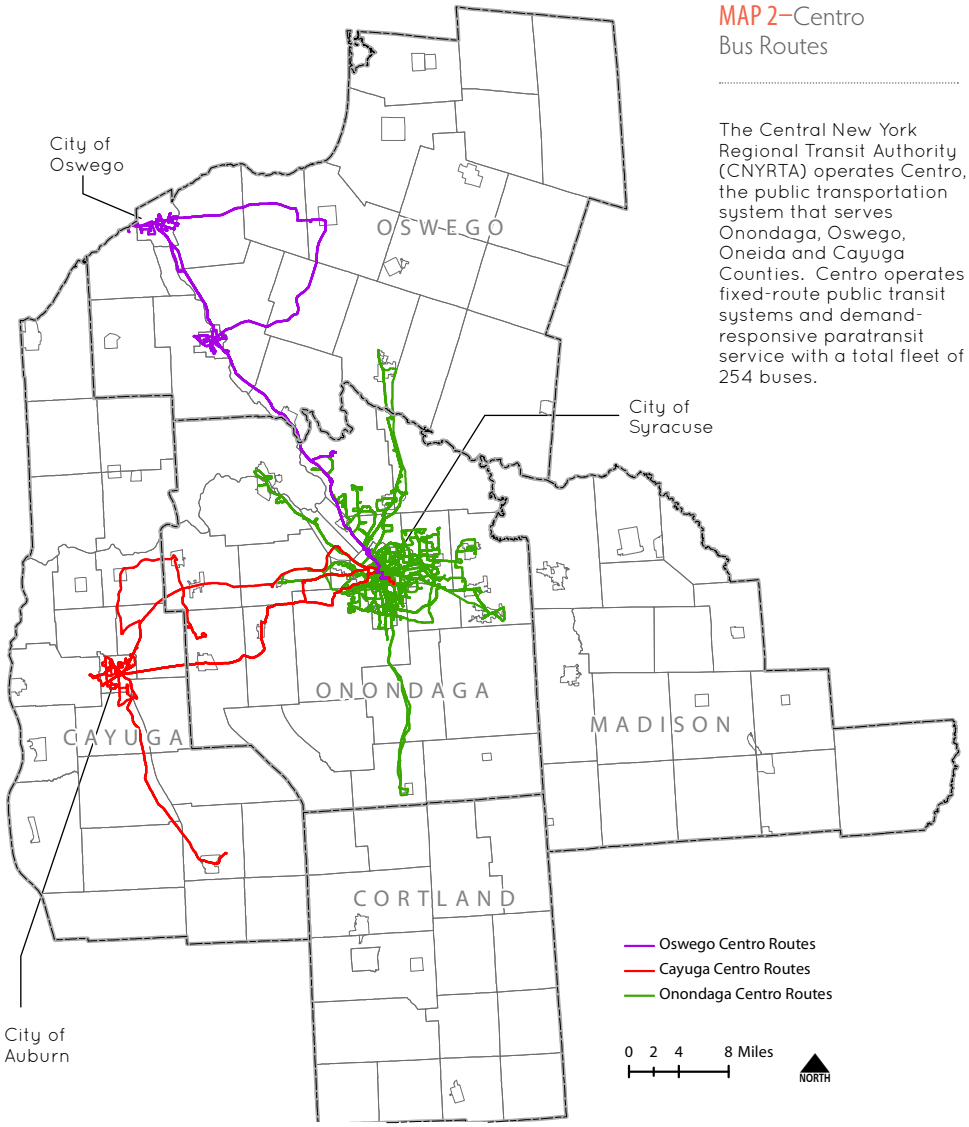
Particpants provide input into the future of I-81 at a community forum hosted at the Oncenter in downtown Syracuse.

Transit Service

The Central New York Regional Transit Authority (CNYRTA) operates **Centro**, the public transportation system that serves Onondaga, Oswego, Oneida and Cayuga Counties. Centro operates fixed-route public transit systems and demand-responsive paratransit service with a total fleet of 254 buses. In 2005, Centro expanded their transit services into the Cities of Utica and Rome. Centro operates connecting routes between the cities of Syracuse, Oswego, Fulton and Auburn, as well as city transit services within each of these cities. During peak hours within Onondaga County, service frequencies result in continuous and heavy use. In the midday and evening periods and on weekends, up to 18 Centro routes converge simultaneously every 35 minutes at the newly opened Transit Hub in Downtown Syracuse. Suburban routes operate with a seventy-minute level of service (headway) during these time periods.

Centro's routing system in Onondaga County has undergone a series of changes since the economic decline that began in 2007 in response to dwindling State and local operating assistance. Centro's annual budget declined by 7% between the 2008-09 and the 2010-11 fiscal years (from $28.5 million to $26.5 million). Nearly fifty percent of Centro's operating costs are covered by the New York State Mass Transit Operating Assistance program (STOA). Over a two year period from 2009 to 2011, the Authority's allocation from STOA was reduced by $2 million. Additionally, a portion of Centro's service funding comes from a mortgage recording tax (MRT) levied on real estate transactions that has also seen declining revenues, a 30% decrease since the 2006-07 fiscal year (from $7.83 million to $5.45 million). http://www.fhwa.dot.gov/environment/climate_change/adaptation/workshops_and_peer_exchanges/albany_09_2008/gccalbany.cfm[46] Despite significant service reductions since 2007 Centro has been able to retain its core market of urban and suburban riders. Moreover, Centro has proven adept at reacting to large spikes in ridership experienced during periods of high fuel prices. Despite a series of service reductions and fare increases, the Centro routing system continues to provide good service to suburban markets, as many "one-seat" rides as possible for significant origin and destination pairings.

The majority of Centro's routes meet at a central point of the regional hub-and-spoke system at the recently completed Transit Hub in Downtown Syracuse. The $18.8 million Hub, located at the intersection of South Salina Street and Adams Street, features 22 passenger loading bays and an enclosed passenger waiting area that includes a customer service desk, public restrooms, and electronic bus departure information board,



MAP 2–Centro Bus Routes

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Centro Transit Hub, downtown Syracuse

and automated buss pass vending machines. The Hub will accommodate between 5,000 and 8,000 riders transferring downtown each day. The move, by many accounts was long overdue. The former Centro Common Center facility formerly situated at the corner of Fayette and Salina Street had long suffered from the congestion associated with people waiting for bus transfers sometimes 6 busses deep. Nearly two thirds (65%) of the Syracuse metropolitan region's bus riders will transfer to other routes at the new Transit Hub.

Like many public transit properties throughout the nation, Centro originally inherited a fleet past due for replacement from its private sector predecessor. Federal funds, which comprise 80% of capital acquisitions, can be used to replace buses every 12 years. As a result, Centro's need to replace large numbers of buses simultaneously has ratcheted thru the decades since the original replacement cycle was initiated. As buses require maintenance and eventual replacement, there is a need for continuous funds to be available to upgrade and keep Centro's fleet in a state of good repair. Currently Centro is faced with the need to replace 70 buses in the near future at a cost of nearly $32 million. Funding resources are currently short of the required amount.

Centro is pursuing efforts to improve service on its existing routes. One example is its collaboration with Syracuse University on the Connective Corridor project to implement an improved computer aided dispatch system and automated vehicle locator system for Centro. Real-time "next bus" information is available for customers as well as automated stop announcements on buses, electronic destination signs and other features intended to improve customer service. The new GPS tracking system was unveiled in February of 2012.

More than a dozen Bus Time LED signs have been installed at bus stops along the corridor; each sign provides visual and audible information on the arrival time of the next scheduled bus. Customers can also access the information via text message / email or by accessing Centro's website on their smart phone or personal computer. The ITS (intelligent transportation system) technology in Syracuse is unique because it is converging network technologies and VoIP (voice over Internet protocol) on each bus while connecting these technologies via a cellular signal to a centralized command center. Customers are now able to wait at an equipped bus stop and receive information on exactly when their bus will arrive at that stop. Each sign will visually count down the arrival of the next scheduled bus and can provide audio announcements of the same information for sight-impaired users. The cost of the new system is approximately $2.8 million and is funded through $2.25 million in SAFETEA-LU grant monies secured by Sen. Charles E. Schumer (D-NY), along with 10 percent matches provided by both Syracuse University and the New York State Department of Transportation.

Once complete, Centro will evaluate whether to pursue Bus Time technology for other aspects of its bus services. The Bus Time system and has provided similar technology for transit systems in Chicago, New York City, Chattanooga and Richmond. **This technology should be extended strategically throughout Centro's service routes to help to improve system ridership along with enhancements to service frequency and improved station offerings (see call out in left hand margin).**

In 2012, CNYRTA completed a renovation and improvement project that more than doubled the amount of paved parking spaces and improved traffic and pedestrian flow at the William F. Walsh Regional Transportation Center (RTC). While parking has been in short supply since the RTC facility opened, Amtrak ridership is up 44% since 2000 (approximately 420 boardings per day), and has placed added pressures on parking availability for system users.

Bicycle and Pedestrian Infrastructure

The City of Syracuse has been working to expand bicycle infrastructure since 2006. Bike lanes were implemented primarily within proximity to Syracuse University within the University Hill Neighborhood as a response to neighborhood requests to both accommodate existing cyclists and to slow down vehicular traffic. Just over 9 miles of cycling lanes were implemented through the end of 2010, with an additional 4.6 miles added through the end of 2012 (Map 5).

The City released its first plan for expanding bicycle infrastructure in 2012 in order to set forth a vision for a cohesive and connected bicycle network. The **Syracuse Bicycle Plan 2040** analyzes opportunities for expanding bicycle infrastructure throughout the city as well as outlining key tools, and conceptual design strategies for implementing bicycle travel networks throughout the city.

The **Connective Corridor** project is an important component of this expanding network. The project will establish a bicycle and pedestrian corridor that will link University Hill to Downtown Syracuse through over $40 million in public investment. The corridor exhibits dedicated bikelanes as well as bicycle parking. Investments are also being made to improve public transportation along the corridor, and ultimately will establish a model for mobility for the Central New York region. **As the Connective Corridor takes shape the Syracuse University Office of Community Engagement is exploring options for creating a bike share program to complement the aforementioned investments.**

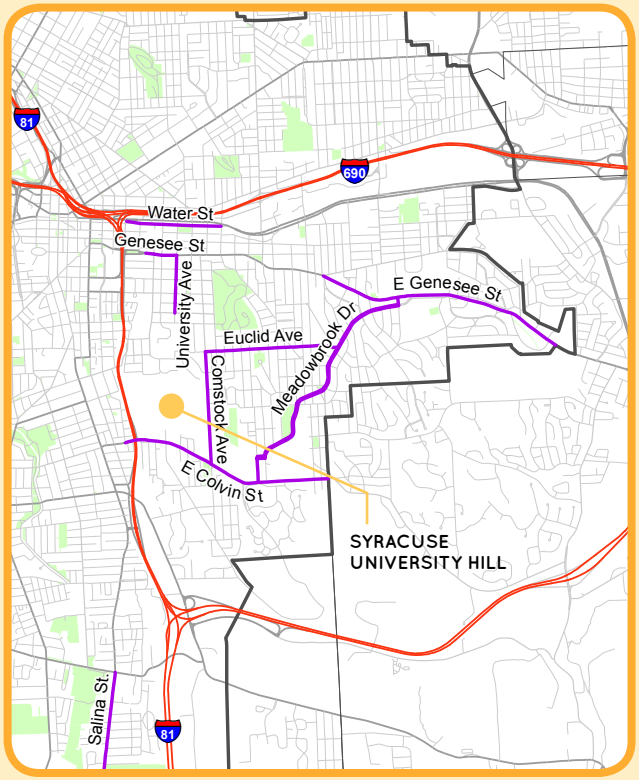
Outside of the City of Syracuse, NYSDOT has 3 on-road bicycle routes listed in the CNY region the Seaway Trail (63 Miles), State Bike Route 11 (101 Miles), and State Bike Route 5 (58 Miles, which follows along Rt. 31 and Oneida Lake in CNY). Other municipalities within the region have expressed interest in their municipal plans, but have not yet established any significant networks of bicycle infrastructure.

While communities outside of the City of Syracuse exhibit a lack of dedicated infrastructure, the prevalence of university or college towns within the region provides on impetus for the further development of linkages between campus and community through improvements to bicycle, pedestrian, and even transit infrastructure. New York State Route 104 through the City of Oswego linking SUNY Oswego to downtown Oswego to the retail center east of the Oswego downtown is just one example (see page 10).

MAP 5: Bicycle routes in the City of Syracuse

The City of Syracuse has been working to expand bicycle infrastructure since 2006. Bike lanes were implemented primarily within proximity to Syracuse University within the University Hill Neighborhood as a response to neighborhood requests to both accommodate existing cyclists and to slow down vehicular traffic. Just over 9 miles of cycling lanes were implemented through the end of 2010, with an additional 4.6 miles added through the end of 2012.

Existing Bike Lane



The Syracuse Connective Corridor completed a cycle track in 2012 along University Avenue. The Connective Corridor will ultimately create a continuous bicycle system between the University Hill Neighborhood and the Near Westside Neighborhood, connecting through downtown Syracuse.

ALTERNATIVE COMMUTING NETWORKS

In addition to on-road or urban bikelanes, there are several priority projects underway within the region focused on the region's historic waterbodies and waterways. These initiatives have the potential to increase trips made by alternative transportation.

New York State Erie Canalway Trail

- Portions of this planned 350+ mile trail have been completed within Onondaga County that link to the end-to-end statewide Erie Canalway Trail along the Erie Canal Corridor from Buffalo to Albany. The most important gap in the current Canalway Trail is located within the City of Syracuse and would connect completed sections west of Syracuse in Camillus with those in the Town of DeWitt to the East. Once complete, the Canalway trail will become the longest continuous bicycle and pedestrian trail in the United States.

The Syracuse segment of this trail is considered to be one of the most difficult gaps to complete, primarily due to the fact that the 15-mile segment that will connect Camillus in the west and DeWitt in the east, traverses land that is the most urbanized along the entire state route.

The current iteration of the canal corridor in Syracuse – Erie Boulevard – does little to interpret the historical nature of the corridor. While the Erie Canal Museum and the water feature and interpretive elements in Clinton Square provide some benefit, the entire corridor would benefit from new streetscape elements that help to identify the corridor, the completion of the bicycle route for tourism promotion, and additional interpretive signage would be beneficial to celebrate the canal's legacy.

Additionally a completed trail segment through Syracuse would provide a valuable alternative commuting corridor from both the Eastern and Western suburbs to the major employers in Downtown Syracuse. Several of the region's top employers are located within the Central Business District of Syracuse including UPSTATE Medical University and Syracuse University.

A study is currently underway to determine short and long-term routes for the trail. Participants in the planning process have indicated a keen desire for the trail to follow the historic route of the canal (now Erie Boulevard), at the same time providing for an "off-road" experience. Indeed the historical route followed a relatively flat expanse that made it ideal for moving freight along the canal, but also that provides the perfect conditions for an accessible bike route.

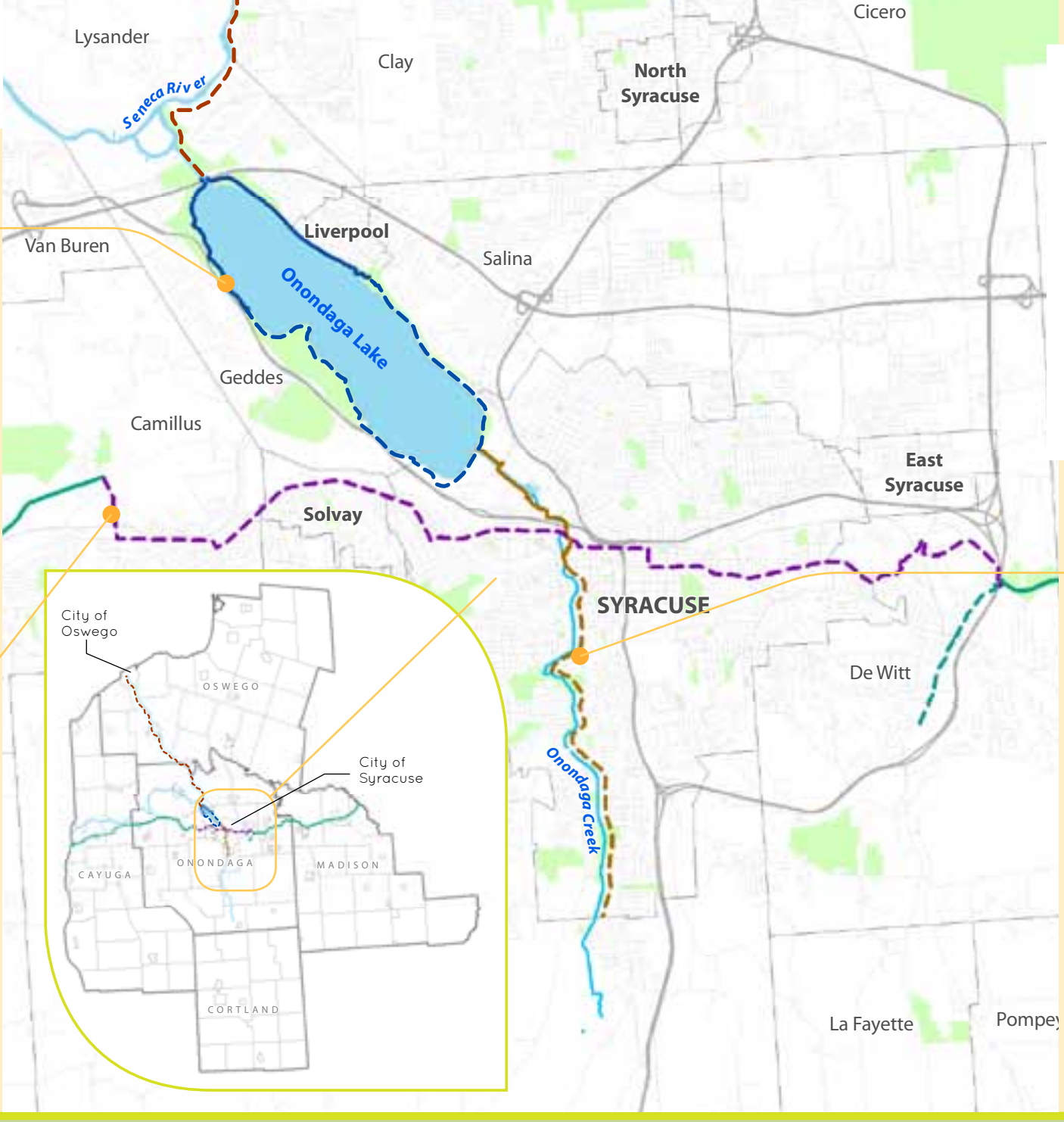
The Canalway Trail, once complete, would cross the Syracuse Creekwalk and provide access to the Loop the Lake trail system. The Canalway master plan also calls for the development of a trail extension to Oswego following the historic Oswego Canal and current NYS Barge Canal system along the Oswego River.

Onondaga "Loop the Lake" Trail

Onondaga County continues to work on completing a long planned bicycle/pedestrian trail around Onondaga Lake, which will provide a non-motorized transportation link between Liverpool , Solvay, and the City of Syracuse.

The most recent section of the trail system was completed in 2002 along the West shore of the lake. In 2012, the Onondaga County Legislature unanimously approved more than $1.2 million in funding for improvements to the Loop the Lake Trail that will add two additional miles of paved, Class 1 trail on the West Shore of Onondaga Lake from the present trail end at Nine Mile Creek to the State Fair parking lots near I-690 Exit 7.

These improvements are under construction and are anticipated to be open to the public in the beginning of 2014. Additionally the County will explore the design of an ADA compliant bridge that will enable the connection of the Loop the Lake trail with the Syracuse Creekwalk.



MAP 6: Alternative Commuting Networks

The Erie Canalway Trail, Onondaga Loop the Lake Trail, and the Syracuse Creekwalk have the potential to form an interconnected web of cycling and walking trail systems connecting a significant portion of the regions population to major employment centers.

- Erie Canal to Oswego Connection - Proposed
- Erie Canal Trail - Western; Erie Canal Trail - Eastern
- Canal Extension Trail - Proposed
- Unsigned On-Road Erie Canal Trail
- Onondaga Lake Trail
- Onondaga Creekwalk

0 0.5 1 Miles

NORTH

Syracuse Creekwalk

A short section of this bicycle and pedestrian trail has been in existence since the early 1990s, with the first completed portions opened in the Franklin Square and Inner Harbor in Syracuse's Lakefront Area.

In 2010 and 2011, the City of Syracuse extended the trail north from the Inner Harbor to the mouth of Onondaga Lake and south from Franklin Square to Armory Square in Downtown. This has allowed the Creekwalk to become a continuous 2.2 mile trail with a nominal width of 13 feet, stretching from Onondaga Lake to Armory Square. Construction was completed in the Spring of 2012. Green infrastructure improvements were incorporated into the trail. A feasibility study for the next section (Phase II) of the Creekwalk, from Armory Square south to Kirk Park, was completed in February 2008. Phase II has not yet received funding for design. Phase III, which is a concept only at this time, would extend the Creekwalk from Kirk Park to the southern border of the City at Dorwin Avenue.