

TOWN OF LYSANDER COMPREHENSIVE LAND USE PLAN



ADOPTED:11/16/2023

Town of Lysander
Comprehensive Land Use Plan

Land Use Plan Committee

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OVERVIEW: 2015 COMPREHENSIVE LAND USE PLAN UPDATE

An overview of the Update Committee's Findings and Recommendations pertaining to the CLUP are as follows:

FINDINGS

The core elements as well as the key goals/objectives of the 2015 CLUP remain valid today and should continue to be used by the Town to shape its vision for the Town of Lysander. The CLUP outlines a blueprint that, if followed, should allow the Town to achieve its goals of preserving the unique characteristics that make Lysander the special place it is to live in while also allowing an environment of planned economic development necessary for the Town's longer-term financial sustainability. Notwithstanding this finding, the Committee believes there is a need to revise certain sections in order to provide greater clarity and understanding of the CLUP's blueprint for achieving the Town's goals. Also, the Committee has identified two new topics/sections for inclusion in an updated CLUP.

RECOMMENDATIONS

The Committee's recommendations regarding additions/changes needed to update the CLUP are as follows:

- The addition of a "Mission Statement" that concisely and clearly states the core purpose of the CLUP.
- Replace the original Introduction section with a new Introduction/Vision narrative that provides a more detailed and focused description of our vision for Lysander today and tomorrow.
- Add a new section on Renewable Energy Opportunities that overviews both the potential for renewable energy development as well as the challenges/conflicts that this development poses for Lysander (i.e., most notably commercial solar farms and preservation of open space and prime agricultural land).
- The core elements of the 2015 "Transportation" section remain valid. Adopt the suggested rewrites/updates.
- Adopt the suggested rewrites for the various parts of the "River System" section. These rewrites update the core elements of this section.

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- Recommend the Town replace the 2015 Parks and Recreation section with the proposed rewrite. The proposed section modified and updated the topic, with specific recommendations for establishing a new park in the Cold Springs area and creating a number of additional general access sites to the river system.
- Add a new section to the Agriculture section of the CLUP that updates trends in farming regarding numbers and sustainability and summarizes the challenges farmers face in the years ahead.
- Adopt the proposed updates and editorial changes for the “Physical Environment” section. Core elements and recommended policies remain valid.
- The core elements of the Public Facilities section remain valid. Adopt the recommended updates and the new language that identifies that the Town has leased its sewer system to the Onondaga County Sanitary District.
- Adopt the suggested rewrites for various parts of the “Commercial and Industrial Land Use” section. These rewrites update vital statistics regarding properties zoned Commercial and Industrial, and where appropriate, recommend modification to the 2015 CLUP’s proposed policy actions.
- Replace the original Residential Land Use section in order to remove references to the Transfer of Development Rights (TDR) Program, update trends in residential development, and outline the issues facing Lysander with future developments.
- Adopt the proposed minor updates concerning the Planning Board’s responsibilities regarding protocols for interaction with certain outside agencies and the addition of a new paragraph pertaining to the County’s establishment of the 2018 Onondaga County Emergency Management Plan.

MISSION STATEMENT

The Mission of the Comprehensive Land use Plan (CLUP) is to provide a blueprint for the Town of Lysander to achieve its goal of fostering economic growth through a planned and balanced facilitation of residential, industrial, and commercial development while realizing its objective of preserving those attributes and characteristics that make Lysander a unique and special place.

INTRODUCTION/VISION

This Comprehensive Land Use Plan (CLUP) of the Town of Lysander takes advantage of the experience gained working with the 2015 CLUP; it emphasizes the vision to retain what is of great value to the Town's current and future residents, businesses and communities and clarifies the means and methods to achieve and enhance these values. In developing the 2015 plan, an "All-Volunteer Committee" made it a key point to fully assess the desires of the Town's current residents and businesses through open meetings, local press coverage and the use of surveys. This level of outreach to the community was successful in identifying, or perhaps confirming, the Town's most desirable characteristics as well as what needs improvement. Recent statistics gathered by the Town and City Census confirm the importance of these most desirable characteristics and the impact the 2015 CLUP has had in addressing them. The latest (June 2020) town and city Census numbers show a shift in the fastest-growing Syracuse suburbs. In the last decade, residents have traded Syracuse's nearest and oldest suburbs for rural towns with space for bigger houses and more acres. Since the 1950's, Cicero had been the fastest-growing large suburb in Onondaga County. It jumped from just 6,000 residents in 1950 to 31,532 in 2010 and 31,435 in 2020. In the last decade, the population of Cicero declined by nearly 0.3%. Lysander topped 20,000 residents for the first time in 2010. The Town now has nearly 23,074 people. Lysander grew about 4.7% in the last decade.

This update guides the Town's growth in a controlled manner, not only attractive to its current citizens but to those looking to join and enjoy the values addressed. This update retains the original intent while making clarifications based on experience gained applying it to the Town's land development since 2015.

RENEWABLE ENERGY OPPORTUNITIES

The natural environment of the Town of Lysander is one of the things identified throughout the Comprehensive Land Use Plan that makes the Town of Lysander a special and unique place. The use of renewable energy over the long term, while helping to preserve and protect the natural environment in Lysander by reducing greenhouse gasses that have been proven to contribute to global warming, are by their nature and construction in direct conflict with one of the primary goals of the Comprehensive Land Use Plan, which is the preservation of open space and view sheds. Therefore, the Town must also consider the long-term effects of renewable energy development on properties in an agricultural zone of the town.

The large open agricultural areas in the Town of Lysander offer immense potential for solar energy development. Agriculture currently plays a very prominent part in the natural environment in the Town of Lysander. Preservation of prime agricultural soils should be considered during the review of proposed commercial solar development projects while preserving private property owner's rights to allow for commercial solar development on their property. The current Town of Lysander solar energy zoning code allows for up to 50% lot coverage in the AR-40 zone and 50% lot coverage in the agricultural zone for commercial solar development projects. To preserve the agricultural character of the Town of Lysander, the development of commercial solar facilities in the agricultural zones should be limited to a maximum 30% lot coverage on prime agricultural soils, as shown on the map included in Appendix B, and commercial solar projects should be situated on parcels to encourage continued agricultural use of the parcel.

The current Town of Lysander Code regulates On-Site-Use Wind-Energy Systems. The current regulations apply only to on-site use of wind power generation and allow the construction of Wind Energy Conversion Systems in the industrial, agricultural, and AR-40 zones on parcels greater than five (5) acres, with no more than one Wind-Energy Conversion System on each parcel. The current regulations do not apply to Commercial Wind-Energy Conversion system wind farms, which would be constructed to sell energy. The Town of Lysander should consider amending the current Town of Lysander Code to further regulate Commercial Wind-Energy Conversion Systems. It is recommended that Commercial Wind-Energy Conversion Systems only be allowed in the agricultural zone on parcels not less than 100 acres in areas not containing prime agricultural soils, as shown on the map included in Appendix B.

Currently, the Town of Lysander has two commercial hydro-electric power generating facilities. The Town of Lysander's proximity to the Seneca and Oswego Rivers will allow for future hydro-electric power generating opportunities. The Town should continue to support new hydro-electric power generation proposals in the future.

TRANSPORTATION

In developing the 2015 Comprehensive Land Use Plan, the committee applied for and was awarded a substantial grant from the Syracuse Metropolitan Transportation Council (SMTC) to conduct a Traffic Study, resulting in valuable data and recommendations upon which this Plan is based. See Appendix A for the complete Traffic Study.

With the growth of the Town of Lysander over the past 25 years, it has become obvious that traffic is and will be impacted by the fact that a substantial portion of town residents need to cross the Seneca River when they leave the town, especially if they wish to go south toward Syracuse or east toward the Town of Clay. The Seneca River and a short section of the Oswego River comprise approximately 31 miles of the Town's boundary and can only be crossed at the Belgium Bridge on Route 31, the 370 bridge into the Town of Salina, the bridge on Route 48 in the Village of Baldwinsville, and the bridges on Route 690 near the Route 370 exit as well as the bridges at the end of Lamson Road to Phoenix and at Jack's Reef.

The State and County Departments of Transportation have pointed out to the Town and its Planning Board and Land Use Plan Committee particular concerns for future development on the Cold Springs Peninsula to the point that future planned build out at Timber Banks exceeding 200+/- units will require additional traffic study.

A 2008 NYS Route 370 corridor study pointed out that "current and future developments on primarily agricultural lands have the potential to burgeon into significant problems." A communication from the NYS Department of Transportation in January 2014 points out the importance of preserving open space and farmland to prevent traffic from drastically increasing on the Cold Springs Peninsula. Through incentive zoning and clustering, the Town will encourage the continuance of farming on the peninsula, which will also help preserve the view sheds of importance.

While in the past it has been stated by the State and County Transportation departments that there will be no construction of a bypass road from Route 370 west to Route 48, it is now time to reconsider such a stance not only to relieve current congestion but more importantly in consideration of the new enterprises such as Micron slated for build-out in the northwest part of Onondaga County. While there will continue to be development pressures on the Cold Springs Peninsula, they will likely need additional traffic signals and turn lane additions to relieve traffic problems at the intersections of River/370, Hicks/370, as well as at the five-corner intersection of River, Patchett, and Hicks. Future development taking place on 370 must limit access points and be carefully planned as to sight distances. Any new curb cuts on either River Road or 370 should be limited to preserve the function of moving traffic rapidly.

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In addition to the SMTC Study, a study done by the Lysander Town Engineer has shown that major developments of homes on large lots required where there is neither water nor sewer or even where there is water but no sewer results in road maintenance costs well beyond what the taxes on those homes will pay. Accordingly, it does not make sense to allow further major developments containing homes at the AR-40 zoning level and perhaps not even at the R-20 level without section 278 cluster use and/or some form of incentive zoning, which would maximize the number of units along new Town roads.

Traffic pattern changes associated with the rise in the percentage of workers telecommuting in 2020 & 2021 will need to be monitored as new development projects are considered in the Town.

Existing Highway System

Any assessment of the existing highway system and future highway needs involves understanding highway function and examining the system's existing characteristics. Existing characteristics include highway jurisdiction, traffic volumes, highway widths, accident frequency, and planned improvements.

Highway Function

Highway function refers to the role of a particular road in the context of the overall highway network. The two major functions of any highway system are: (1) to carry traffic and (2) to provide access to adjacent land. Individual roads are classified according to the extent they serve one or both of these functions. Conflicts between these functions often arise as development progresses (turning movements increase as the number of adjacent land uses increase, thus slowing the flow of through traffic). As these conflicts increase, there are demands for new or improved highways and/or limits to new development.

Highways are classified according to their relative traffic carrying/land access functions as freeways, arterials, collectors, and local streets. The freeway or interstate highway primarily serves to carry traffic; no direct access to adjoining properties is provided. At the opposite end of the continuum is the local street, which has land access as its primary purpose; traffic movement on a local street is clearly a secondary function, and through traffic is undesirable. Collectors and arterials fall between local streets and freeways as described below:

Highway Classification

Function

Local Street

- Provides access to abutting properties (land service).
- Provides intra-neighborhood traffic.
- Moving traffic is a secondary function

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Collector Street	<ul style="list-style-type: none">• Collects traffic from local streets and conducts it to arterials.• Provides inter-neighborhood traffic.• Land access is a secondary function
Arterial	<ul style="list-style-type: none">• Moves larger volumes of vehicles from one area to another (inter-community traffic movement) and to freeways.• Land access is a secondary function that should be kept to a minimum.
Limited Access or Freeway	<ul style="list-style-type: none">• Carrying traffic is the only function.• No land access function.

The State highways in the Town function as arterials (Routes 370, 31, 48) or as freeways (I-690). Most county highways function as collectors, and most town highways function as local streets; the exceptions are county roads, which function as local streets (Sprague, Cross Lake Road, and North Cross Lake Road) and local roads, which function as collectors (Willett Parkway, West Entry Road, and Drakes Landing Road).

Route 631, a Provisional State highway, can be classified as a hybrid; a freeway between 31 and 370 and an arterial otherwise. This route is the first part of the long-delayed Baldwinsville bypass, which may never happen without continued pressure from local government. However, it does provide some relief since it links 31 at Willett Parkway to I-690 at Hencle Blvd.

While the four classes of highways are distinct in concept, in reality, there is an inherent conflict between their respective land service and traffic service functions. This is especially true with respect to local streets, collectors, and arterial highways. While this conflict may not be readily apparent when development is minimal and traffic volumes are low, the conflict becomes increasingly apparent as development progresses. The following example illustrates this point:

Route 370 is a State arterial highway that carries significant externally generated and local traffic directly to Syracuse or other employment centers south of Lysander. In addition to moving inter-community traffic, Route 370 performs a land service function for abutting properties (residential and commercial) that have direct driveway access onto the highway. Each driveway represents a potential source of friction with through traffic; consequently, as frontage subdivision increases and

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more driveways are added, the friction increases, and the conflict between land service and traffic service functions becomes more apparent. Ultimately, traffic flow is seriously impaired, and traffic volumes increase to the point where the highway is no longer a desirable place to live. Neither highway function is well served at this point.

A particular highway's function in the Town highway system must be an integral component of the development review process and be incorporated into local land use controls, where necessary. This will be increasingly necessary to balance the highway improvement needs created by additional development and increased traffic in an era of limited public fiscal resources.

Highway System Characteristics

The SMTC Traffic Study evaluated many roadway travel conditions through statistical analysis. The following captures the results of these analyses.

Traffic Volumes

The Route 370/John Glenn Boulevard intersection, which is just outside of the Town of Lysander (in the Town of Salina) experiences the highest traffic volumes of all of the intersections included in this analysis. The intersections with the next highest traffic volumes are Route 370/Route 48 in the Village of Baldwinsville and Route 31/River Road. At the Route 370/Route 48 intersection, the northbound right-turn and westbound left-turn volumes are notably high, with about 430 vehicles during the AM peak hour and over 500 vehicles in the PM peak hour.

Table 2 compares the volume of traffic entering Route 690 southbound (SB on) and exiting Route 690 northbound (NB off) at the Routes 370/31 and Hencle Boulevard exits during the morning and evening peak hours. (Since Hencle Boulevard is the northern terminus of Route 690, traffic can only enter to travel southbound and exit from Route 690 northbound at this location. The exit at Routes 370/31 also allows for northbound entering and southbound exiting movements, but these volumes are relatively minor.)

As shown in the SMTC Study Appendix A, the AM peak hour southbound on (entering) volume and the PM peak hour northbound off (exiting) volume are the highest volumes. This is expected since these are the movements likely made by a commuter living in the Town of Lysander and working anywhere south of the town, including in Syracuse. Significantly more traffic utilizes the Hencle Boulevard exit for these movements than the Routes 370/31 exit, but this is primarily due to the high northbound and southbound through movement volumes at the Route 690/Hencle Boulevard intersection. These are

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the turning movements that would be made by commuters accessing points north of Hencle Boulevard in the Town of Lysander and into Oswego County.

Most of the residential development within the Town of Lysander is located east of Route 690. The turning movement volumes at the two Route 690 exits for traffic to/from points to the east are evenly split, with about 150-200 vehicles entering Route 690 southbound from the east during the AM peak hour and exiting Route 690 northbound to the east during the PM peak hour at each exit.

The highest traffic volumes in the town are on Route 31 between the Village of Baldwinsville and the Town of Clay, with over 15,130 vehicles per day. The Route 370/Route 31 overlap east of Route 48 within the Village of Baldwinsville has the highest traffic volume with 16,786 vehicles per day. Most of the other road segments with substantial traffic volumes are located in the southeastern portion of the town (Baldwinsville, Radisson, and Cold Springs areas). Route 48 north of Hencle Boulevard is an exception to this statement, carrying nearly 8,800 vehicles per day and providing access to/from Route 690. The updated traffic volume data from 2019 and 2022 can be found in the Appendix B Existing Traffic Volume figure, along with the Change in Traffic Volumes figure between the 2015 traffic study and the most recent traffic counts in 2019 & 2022.

The Seneca and Oswego Rivers form the southern and eastern borders of the town, and, as such, access to the town is limited by the available bridges. Table 3 lists the bridges over the Seneca and Oswego Rivers along the border of the Town of Lysander and the AADT carried by each bridge.

Based on the traffic volumes in Appendix A - Table 3, most traffic accesses the Town of Lysander via the Route 31 bridge to/from the Town of Clay. Route 690, Route 370, and Route 48 also carry substantial traffic in and out of the Town of Lysander. The Plainville Road and Lamson Road bridges carry significantly less traffic.

Highway Accidents

- The SMTC examined the available accident data for intersections and road segments, including bicycle and pedestrian accidents, in the Town of Lysander for the most recent three-year period available (December 1, 2010, to November 30, 2013). Accident data were obtained from the NYSDOT's Accident Location Identification System (ALIS). The SMTC also included the intersection of Route 370/John Glenn Boulevard (in the Town of Salina) in this analysis.
- Accident rates at the Route 370/Route 48, Route 31/River Road, and Route

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370/Hicks Road/Hayes Road intersections exceed the published statewide average rate for similar-type intersections. Rear-end or right-angle collisions were the most common collision type at these locations.

- For the road segments within the town with the highest accident rates, most accidents were relatively minor, classified as property damage only or “non-reportable” (meaning property damage of less than \$1,000 with no injuries or fatalities).
- The segment of River Road from Doyle Road to Patchett Road had the highest accident rate within the town, and the vast majority of collisions on this segment were collisions with deer or roadside objects, not collisions with another motor vehicle. Many of these occurred under dark (night/early morning) conditions.
- There were no fatalities at intersections within the town during the time period examined. There were two fatal accidents on road segments in the town, each with one fatality, during the three years examined. One of these collisions occurred on Route 690 southbound, just south of Hencle Boulevard. The other fatality was a collision with a pedestrian that occurred on Route 370/Route 31 between Route 690 and Dexter Parkway.
- Pedestrian and bicyclist accidents mainly occurred within the Village of Baldwinsville, which likely has more pedestrian and bicycle activity than other parts of the town. No pedestrian or bicycle accidents occurred at the exact location more than once.

Highway System Configuration

Lysander’s highway system is unique in that the Town can be considered an island from a transportation perspective. The Town is separated from the rest of Onondaga County by the Seneca and Oswego Rivers, and the only links between the Town and the employment and retail centers in the remainder of the County are the Town’s six bridges. The bridges include the bridge at West Phoenix on Lamson Road; the Belgium Bridge on Route 31; the Cold Springs Bridge on Route 370; the bridge at Baldwinsville on Route 48; the bridge at Jack’s Reef on Plainville Road, and a four-lane bridge west of Baldwinsville on Route 690. The existence of these bridges channels traffic along certain key roads and necessitates that these routes be protected for their traffic-carrying role.

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The other aspect of Lysander's highway system that needs emphasis is that most of the county roads in Lysander were originally built to serve a farm-to-market function but now serve as commuter roads. Although many of these roads are in rural areas, the trend for increased residential development on scattered rural sites suggests the long-term desirability of preserving these roads as high-speed (55 miles per hour) collectors and developing residential sites to avoid future conflicts between land use and traffic. To provide for highway drainage, adequate shoulders, and any needed alignment improvements, additional right-of-way may be required.

Issue Summarization

The following issues have been identified during the investigation of the Town's current highway system and through meetings with Town officials:

- Methods need to be developed to protect the traffic-carrying capacity of the Town's arterial and collector highway system.
- The protection of the functioning of highways leading to the bridges connecting the Town with the rest of Onondaga County should receive ongoing attention.
- A bypass around the Village of Baldwinsville would be important to the traffic systems of both the Town and the Village. The Town should ensure that no steps are taken that would preclude its completion to either Route 48 or Route 690 in Van Buren and work with the Village of Baldwinsville and the Town of Van Buren to periodically remind Albany of the need.
- What is imperative to consider regarding traffic is the effect new developments will have on the day-to-day "inside the community" use of local roadways.
- Since arterial highways and collector roads are vital to the Town's transportation system for their traffic-carrying function, a hierarchy of road classification needs to be continued.
- The need for new collectors to serve future development should be explored so that potential future rights-of-way can be protected.
- Increased local road mileage will result in increased maintenance and capital repair costs as the road system ages; these future expenses should be considered in overall Town fiscal and capital planning. Care should be taken to avoid creating new roads where the anticipated development will not be expected to generate enough taxes to maintain those new roads.

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Policies

The following transportation policies are intended to guide the Town in land use decisions affecting the transportation system of the Town. The overall goal of these policies is to protect and enhance the ability of the Town's transportation system to accommodate current and future traffic and land access requirements.

- Collector and arterial highways will continue to be designated, and their traffic-carrying function will be protected; future development along these designated highways will be located and designed to have minimal impact on their traffic-carrying function.
- The rights-of-way of existing collectors and arterials should be expanded where feasible to sufficient width to permit future road improvements, such as turn lanes and signalization of critical intersections.
- Potential significant commercial and industrial developments (outside of Radisson) will occur along arterials and collectors with necessary access points located at proper locations.
- To minimize the number of curb cuts along arterials and collectors, design techniques must be utilized, such as reverse fronting of subdivisions and the creation of local internal streets. Interior development of parcels (rather than frontage subdivisions) will encourage variable setback requirements, lot width requirements, lot size requirements, interior roadway extensions, or other suitable techniques.
- Subdivision streets in major subdivisions must provide interconnections with adjacent developed and undeveloped lands without burdening residents along these streets with traffic loads inappropriate to the character of the area. The intent is to decrease the number of vehicles needed to enter collectors and arterials for the purpose of local trips to an adjoining subdivision; also, more interconnections provide additional routes for safety vehicles to enter subdivisions. Walk and Bikeways along such roads should also be considered.
- The town's Pavement Management Plan must be fully implemented and include an ongoing process of capital planning to cope with any increased mileage of local streets.
- The use of cul-de-sacs along arterials and collectors must be minimized to protect

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the functioning of these roads; while cul-de-sacs are appropriate along local streets, their length should be limited for safety reasons.

Highway Supplemental Regulations

Article XVII of the Town's Zoning Ordinance promotes a pattern of land development for the present and future needs of the Town's highway network. The regulations try to balance the functions of the arterial highways and collector roads with the use and design of nearby properties. The major highways and roads are listed below:

- Arterials: Routes 370, 31, 631 and 48.
- Collectors: River Road, Hayes Road, Hicks Road, Pendergast Road, Lamson Road, Sixty Road, Smokey Hollow Road, Hencle Boulevard, Willett Parkway, Drakes Landing Road, West Entry Road, Church Road, East Mud Lake Road, Fenner Road, and Plainville Road.

Minimum Right-of-Way

For collectors and arterials, the minimum recommended right-of-way for new and existing roads will be 80'. Since most existing arterials and collectors in the Town are either 3 rods (49.5') or 4 rods (66') wide, additional right-of-way will be needed to achieve the 80' minimum. Developers can be encouraged to grant additional right-of-way (7' for a 4-rod road or 15' for a 3-rod road) to meet the requirement. These grants of right-of-way will reduce the amount of land that will have to be purchased in advance of any future road improvements and will make such improvements more economically feasible in the future.

Subdivision Design

Proper design of subdivisions can minimize road maintenance costs and ensure safe access to individual home sites. Beyond being diligent in selecting the location of highway access points for major (five lots or more) subdivisions, the town should carefully scrutinize minor (four lots or fewer) subdivisions that create a few frontage lots from a larger parcel having significant frontage along a highway and/or large acreage. The location of these new frontage lots may define the eventual access points for the remainder of the parcel, and these remaining access points for large interior parcels must be properly located for the potentially greater traffic activity they may generate. The best procedure is for the Planning Board to require a sketch plan for the entire large parcel with future access points identified, drainage problems noted, and other salient features identified; this sketch plan can then be used as a basis for judging the merits of minor subdivisions as well as setting precedents for any future subdivision of the original parcel.

During subdivision reviews, desirable design features include properly locating access roads into the subdivision, street layouts that provide for easy maintenance (for example, by controlling the location and length of cul-de-sacs), street connections between subdivisions where feasible (to provide alternate access for emergency vehicles and to reduce the need to travel on primary collectors or arterials), and minor collectors (connecting collectors or arterials) sited to minimize impacts on adjacent residences. Subdivision reviews shall ensure that appropriate lot proportions are maintained when lots are modified to satisfy transportation goals.

Proposed New Collectors and Arterials

As the Planning Board reviews future development, including the Town's current highway system and the possible areas of future development, it is highly likely that new collector highways may be necessary to serve undeveloped areas of the Town or to connect existing parts of the arterial/collector system.

RIVER SYSTEM

The Oswego River, Seneca River, and Cross Lake represent roughly 31 miles of the town's nearly 50 miles of border. Few non-coastal towns are fortunate enough to be so bounded. These water bodies are unquestionably one of the town's greatest assets and must be protected and preserved.

The river system around Lysander is part of the larger Barge Canal that provides access between Albany and Tonawanda and Oswego. The canal's role as a commercial cargo carrier has all but disappeared. The primary users of the Town's waterways are pleasure craft and the numbers of pleasure craft. Historically, the Town's only Lock (Lock 24) has been one of the most active locks in the NYS Canal System. It is estimated that traffic through the Lock is only 1/3 of the total boat traffic traversing the Town's waterfront to Oneida Lake and Phoenix east and north, respectively, of the Town of Lysander and west to the Cayuga/Seneca Canal. It is estimated that more than three times that number travel the 25-plus miles on either side of Lock 24 to Oneida Lake to the East, Cayuga/Seneca Canal to the West, and Phoenix on the North.

Increased emphasis on the attractiveness of the Town's waterways has contributed to substantial new development, including recreational, residential, commercial (primarily dining), a marina, and two river parks.

Studies by the National Recreation and Park Society and anecdotal evidence show that the most important use of water for recreational purposes is visual – to look at. Whether it is walking on a trail beside water or sitting on a bench gazing, looking over a water body is the paramount value that water bodies provide a community. That Lysander has such a bounty of shoreline is of significant value, and that perspective must be remembered as development of any kind is considered.

Three significant considerations to shoreline development exist in many areas where:

1. Wetlands, floodplains and state flowage easements extend hundreds of yards from shore, limiting developable shoreline.
2. Existing seasonal cottages are falling into disrepair and may utilize outdated and insufficient wastewater treatment; transition to year-round or larger residences can present significant planning and permitting challenges;
3. Expansion of public wastewater infrastructure to facilitate shoreline development may be cost-prohibitive and limited to serviceable areas; additional study is needed.

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Once the above obstacles are overcome, the river system has the potential to see more intensive future use and development, particularly since the shorelines of other water bodies in the area have become almost entirely developed; the river system in Lysander is one of the last areas with some vacant privately-owned frontage along any water body in the county. Overcoming the above obstacles will be critical.

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Issue Summarization

The following are the key issues the Town, in concert with the County, must resolve concerning the water bodies:

- What types of development should the Town encourage, and in what locations?
- What new controls, if any, are needed to ensure proper town review of development proposals along the river?
- How can public access to the lake/river system be improved?
- What steps must be taken to prevent the natural ecosystems along the river from being compromised by new development?
- What steps are needed for improving water quality?
- What steps are needed for sustainable development in parallel with the creative use of wetlands?
- What steps are needed to restore/replace blighted properties?

Policies

The following policies related to development and redevelopment are intended to guide the Town in making land use decisions affecting the river system around Lysander:

- Development and redevelopment along the river system's shoreline must not compromise designated wetland areas or infringe upon the flood storage capacity of the river system.
- Protection of the waterways from faulty septic systems is of critical importance to the Town and the entire reach of these waterways. The Town must set strict conditions for waterfront development and redevelopment to ensure adequate sewage disposal.
- The Onondaga County Health Department and the Department of Water Environment Protection must be integrally involved in all waterfront development and redevelopment.
- Any renovation that would increase the volume of an existing structure currently being served by a septic system must have said system reviewed and approved as "meeting or exceeding current standards" by the Onondaga County Health Department as a condition of the issuance of a building permit.

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- The design of new developments along the shoreline of the river system must consider their effects on existing vegetation, the need to minimize erosion, the aesthetic appearance of the development from the river, and the proper location of boat access points.
- Commercial developments must be carefully located with sufficient parking not encroaching on the shoreline, control over access locations to the river and adjacent highways, proper water flow through any manmade channels, and minimal effects on surrounding land uses.
- Greater public access to the river should be achieved through the development of additional commercial or public launch sites as well as providing additional parking areas, trails, and benches to provide access for people desiring to be near the water for visual recreation along the river system.
- The design of public or private access to the river must minimize impact upon the physical and environmental characteristics of the site.
- Drainage systems emptying into the river or streams tributary to the river must incorporate green infrastructure such as the County's "Save the Rain" techniques to prevent pollutants from entering the waterways. See also NYS DEC Stormwater Management Manual.
- The Town must see that the developer coordinates review of any waterfront development with the Onondaga County Health Department, the Department of Water Environment Protection, the New York State Department of Environmental Conservation, the Corps of Engineers, and the New York State Canal Authority.

Implementation

To control development along the Town's Waterfront, the Town needs to review and expand Article XXII 139-61 Riverfront Development Overlay Controls to avoid conflicts and to encompass all properties having direct access to and impact on the river system. These Controls add an extra layer of scrutiny and design criteria to the existing zoning along the Town's Waterfront. The controls apply to new developments, although substantial modifications to existing uses such as expansion, changes to water or sewer systems, any changes to stormwater drainage, or demolition and replacement must also require review and approval. The review could be either a controlled site or a specific permit review and could be done by the appropriate board.

- Setbacks from river: Keeping permanent structures (except for docks and boat launches) back from the shoreline is important both to limit shore erosion during

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construction, to minimize the impacts on structures of any subsequent erosion or flooding, and to improve the aesthetics of the river shore by providing green space between structures and the water. Since lots vary significantly in depth, a standard must be flexible. In addition to addressing variations in lot size, future regulations should consider the width of publicly owned shoreline and the proximity of private property to the actual shoreline. It is suggested that setbacks for structures be the same as front yard setbacks from the highway right-of-way and be measured from the mean high water mark. Where existing lot sizes do not allow for this setback, the river setback could be reduced but in no case closer than 25 feet from the flood plain or the Flowage Easement, whichever is greater.

- There should be a minimum lot width for lots fronting on the shoreline; this width will be measured along the Front lot line (street line)
- The Overlay Controls regulate the amount of clearing of natural vegetation along the shore. Minimal vegetative removal is desired to help prevent shoreline erosion, provide a vegetative buffer strip to help filter out pollutants from stormwater runoff, enhance the river system's aesthetics, and provide habitats for shore fauna. Clear-cutting of shoreline vegetation will generally not be permitted, and regulated areas will include much of the land in the shoreline setback area. Clear-cutting is unavoidable, and new plantings will be required. New plantings will be required where no established vegetation currently exists, or clear-cutting is unavoidable.
- The Town will examine the provision of river access and encourage the use of boat slips versus docks where physical and environmental considerations allow. Where multiple slips are proposed for a waterfront subdivision, an internal marina will be encouraged where physical and environmental considerations allow.
- Any proposals to develop in or adjacent to either shoreline or floodplain areas will require special site review in addition to SEQR review and necessary State and/or Federal permits. Site plans will include necessary flood proofing of structures and ancillary structures as well as attention to mitigating effects on surrounding natural areas.
- In light of the 2010 NYSDEC "Polluted" designation for the Seneca River and a substantial portion of Cross Lake, the Town should seek assistance from the County Health Department and NYS DEC to create more stringent sewage disposal requirements, not just for the Town but for the entire waterway.

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- Any major subdivision, however small, along the Town's waterway (within 500 feet of flood plain) must find suitable means for sewage treatment to be approved by the County Health Department.

PARKS AND RECREATION

Existing Facilities

The Town currently has one main park of 75 acres located immediately north of the Village of Baldwinsville on Smokey Hollow Road.

The park contains:

- ¾ mile Walking/Running Trail
- Baseball/Softball Field: 1
- Basketball Court: 1
- Tennis Courts: 2
- Pickleball Courts: 4
- Athletic Fields: Multiple with various sized areas.
- Children's Playground and sandbox.
- Water Spray Mister
- Spray Park: 24 different apparatuses for cooling fun.
- Rotary Pavilion
- Small Pavilion
- Community Room
- Picnic Area with Grills and tables.
- Official Size Soccer Field (Spence Field)
- Official Size Football Field (Pop Warner)
- Sand Volleyball Court
- Life-Size Checkers Board
- Gazebo
- Public Restrooms

The Radisson Community includes numerous open space areas, trails, tennis courts, ball fields, a swimming pool, fishing ponds, a golf course, a community building, and other amenities for residents. Generally, only the walkways and the golf course are open to the public, with other facilities available to residents of Radisson. The Radisson walkways are an excellent example of thinking of parks and recreation on a level different from an open space filled with ball fields and playgrounds.

The schools in the Town include athletic fields and some other facilities open to Town residents. All of these school facilities are located in the Village of Baldwinsville, except for Palmer School on Hicks Road.

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Onondaga County operates a large nature center at Beaver Lake (approximately 670 acres), which serves the entire County as well as visitors from neighboring counties; in 2013, attendance was approximately 325,000. Beaver Lake is a wildlife sanctuary, has interpretive displays, features trails throughout the nature center, and conducts a wide variety of educational programs during the year. The County anticipates maintaining current levels of these activities in the future.

The State of New York maintains an even larger facility at the Three Rivers Wildlife Management Area; this management area contains 3,462 acres and consists of land left over from an armaments plant used during World War II (the other 3,000 acres of the original armaments plant was used to create Radisson). The management area is used for hunting, hiking, camping, horseback riding, and dog field trials. Activities tend to be less structured than those at Beaver Lake. There are no permanent public, and there are no permanent public facilities (State maintenance facilities on the site). The management area is spread across a large area of the Town northwest of Radisson and does not constitute one contiguous area but rather three separate areas.

In 2019, the New York State Department of Environmental Conservation (NYSDEC) constructed a new Seneca River Boat Launch on Hayes Road, which provides an additional river access point that is America's Disability Act (ADA) Compliant.

Issue Summarization

As a result of meeting with recreation personnel from the State, County and Town, the following issues were found to be paramount in the Town's recreation planning:

- What general recreation strategy should the Town pursue, given its existing facilities over the next 5 years?
- Can walkways be implemented as part of new developments to interconnect between developments and attractions such as the YMCA or the Three Rivers Athletic Complex?
- Where and when will new facilities be needed in the Town to serve growing populations, and is the development of a new facility feasible?
- How can the Town take advantage of the river system along its boundaries in terms of recreation planning?

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- Can the Town, in conjunction with the Town of Van Buren and/or the Village of Baldwinsville, create opportunities for canoe and kayak access to the river, as well as trails and sitting areas, above and beyond what may already exist?
- Can the Town forecast the recreational needs in the near future to accommodate resident's needs?
- Will the YMCA have an impact on Town programs, or will there be an opportunity for the Town to offer programing in conjunction with the YMCA?
- Are there funds available to create any new Park facilities that other Towns have successfully secured?
- Would the Town of Lysander benefit from any possible consolidation and/or shared services with Van Buren and the Village?

Policies

The following policies will be used to guide land use decisions regarding recreation activities in the Town:

- The Town's central park should be the focus of major recreation programs on a Town-wide basis, and there is room on the site to offer additional programs and facilities.
- Revenues from subdivision fees should be used in parallel with the Incentive Zoning Overlay Program to acquire and equip an additional park.
- Buffer strips should protect the borders of existing parks from any new development.
- The Town should encourage greater public access to the river system.

Implementation

A park in the Cold Springs area will serve the numerous subdivisions being developed along River Road and Route 370; the density of development has approached a level needed to justify a park. The application of the Incentive Zoning process should be effective in developing a park in this area. The park should be located a distance away from the Village since school facilities are available in the Village and a location easily accessible from all areas in the peninsula. A location adjacent to Route 370 will provide the best access, although a site along collector roads near Route 370 is also acceptable.

The Town considers trails and interconnected trail systems as important attributes for defining the character and quality of life within the community. Walkways should be considered for major new developments to interconnect between developments and

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other attractions such as public river access, the YMCA, and the above-mentioned park. The Town will require the developer or a Home Owners Association (HOA) to own and maintain these walkways.

All HOAs in the Town must be NY State Attorney General approved.

The Town should encourage either the public or private development of at least one and eventually as many as two sites for additional general access to the river system. The development of these sites needs to be given some priority since suitable land along waterways is becoming scarcer and more expensive. One site in the eastern portion of the Town north of Route 31 and one west of Route 690 would seem to be the minimum necessary to serve Town needs. The sites will need sufficient land to park cars and trailers and to provide buffers from surrounding land uses. Public launch sites can be developed as a part of a larger neighborhood park or, more likely, as freestanding sites. Such sites may be acquired when subdivisions are developed along the riverfrontage, and the sites should be incorporated into the overall design in a way that would not be detrimental to neighboring residential use. Private sites could be developed in the form of additional marinas, with the Town ensuring that adequate parking and launch space are included in any proposal.

The Town needs to continue to monitor its parks and recreation needs and adjust its plans depending on Town growth patterns and residents' recreation needs. As the Town's recreation needs are refined, a commitment of resources to supplement subdivision lot fees may be required.

AGRICULTURE

Through the years, community planning efforts and discussions among local residents have revealed that preserving economically viable agriculture in the community is a key issue facing the local population. The findings of the CLUP committee's public survey strongly support this. In April 1997, Onondaga County enacted an Agriculture and Farmland Protection Plan, which provides additional protection of agricultural land.

Therefore, the importance of linking Town goals and objectives to the preservation of agricultural resources is a key aspect of the quality of life the Town wishes to maintain. The CLUP requires the following:

- Conduct a study whose goal would be producing a "Town of Lysander Agriculture and Farmland Protection Plan." Goals within the scope of the Plan could be:
- Identify policies for the conservation and protection of current productive farmland and its support acreage.
- Determine criteria and prioritize the agricultural land within the Town which should be preserved.
- Strengthen Lysander's agricultural reputation and work for the support of the non-farm residents of the Town by increasing the awareness of the significance of local agriculture in daily life.
- Encourage the Town and its residents to support future economic development, which could result from increased agricultural production, value-added production agritourism, etc.
- Ensure local regulations are supportive and protective of agricultural activities.
- Significant acreage on both sides of Route 370 west of the Village of Baldwinsville and the Cold Springs Peninsula need not depend on the results of such study since they have, for many years, proven to be very productive and are perhaps the most visible farm land in the entire community, even to the point of demonstrating the benefits of

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agribusiness including agritourism attracting visitors to the orchards, vegetable and berry fields. In keeping with the community's strong desire to retain such farmland, it is recommended that significant portions of these farmlands immediately adjacent to 370 be preserved through the application of Conservation Easements, the continuation of the NYS Agricultural District, which already exists to the Northeast of 370 and the enrollment of a new NYS Agricultural District to the Southwest of 370.

- Residential development to the Northeast and Southwest of these lands shall be allowed at an increased density through the application of the incentive zoning process, which would exchange increased density allowance for the developer's agreement to provide sewer extensions and appropriate Buffers between the farmland and the residences.
- Current Lysander Zoning provides limited protection of Agricultural lands west of 690. Additional Conservation Easements on productive agricultural land west of 699 should be considered.

PHYSICAL ENVIRONMENT

Environmental Components

As elements encompassed by the physical environment are numerous, including characteristics found on every site as well as unique special features found only within limited locations at eleven (11) sites will have soil, topographic, drainage, and groundwater characteristics that need to be evaluated on both a Town-side and individual lot basis. These characteristics will vary across the Town, providing opportunities and constraints to individual site development. The unique or special features may be described as landforms performing certain functions not found within the general environment and limited to definable areas. The most significant of these unique features are the wetlands and flood hazard areas.

Another distinguishing factor of these elements is how they are regulated. Wetlands and flood hazard areas are recognized for their unique roles within the general environment and are, therefore, subject to special controls at Federal, State or local levels. The other elements of soil, topography, drainage, and groundwater resources form the characteristics of every site and are not specifically regulated. However, the variations in these characteristics are an important consideration to the Town in promoting land use patterns, providing public facilities, and reviewing project design.

Wetlands

A wetland is an area of land where groundwater level is at or near the soil surface for a significant part of the year. Historically, wetlands were considered useless areas, being neither fully land nor fully water. Since the 1970s, the general perception of wetlands has been changing, resulting in the recognition that these wetland areas are important and have intrinsic value.

The recognition of the importance of wetlands has taken its most significant form through Federal and State legislation. The Federal Clean Water Act and amendments to the Rivers and Harbors Act of 1899 empowered the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (CORPS) to protect the wetlands that relate to the nation's rivers and major waterways. The NYS Freshwater Wetlands Act (1975) directed the New York State Department of Environmental Conservation (NYSDEC) to protect wetlands in order to secure their natural benefits consistent with the general welfare and development of the State. The State also enacted the Environmental Quality Review Act (SEQR, 1978) which requires that State, County, and local agencies identify and fully consider the effects an action (e.g., development project approval) may have upon environmental features (including wetlands).

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The involvement of multiple levels of government is indicative of the fact that wetlands provide many benefits. NYSDEC has identified the following benefits attributable to wetlands:

1. Flood and stormwater control (flood storage area)
2. Wildlife habitat (birds and mammals)
3. Water supply (surface water and groundwater recharge area)
4. Water quality (cleansing and filtration of run-off)
5. Fish habitat (spawning grounds)
6. Food chain (supporting the fish and wildlife habitat)
7. Recreation (hunting, fishing, biking, and hiking)
8. Open space/aesthetic (visual diversity, physical separation)
9. Educational/research (biological/geologic studies)

Benefits of Wetland Protection for a Town

The Federal and State involvement is based, in part, on the fact that an individual wetland is part of a wide-ranging ecological system that crosses many political jurisdictions. Though Federal and State agencies provide the principal reinforcement and protection of wetlands, this should not rule out local concern for and involvement with wetlands.

Of the nine natural benefits identified by the State, four can readily be considered as affording significant positive effects within a town. The wetland's habitat, with its combination of plants, organisms, soils, and topography, can contribute to the quality of a community. Conversely, the reduction or loss of a wetland can necessitate the installation of expensive public facilities to compensate for the functions previously provided by the wetland.

Flood and Stormwater Control: A wetland is a natural basin to receive stormwater run-off. It is a stable area that can store a large volume of stormwater, reducing its rate of flow. Stormwater is held until it is absorbed into a groundwater system or discharged into a stream channel. This function lessens the flow volume and rate within stream channels, providing erosion and flood control.

Water Supply: As a meeting point between groundwater and the soil surface, a wetland allows rainwater to enter the groundwater system and replenish its supply.

Water Quality: The unique plants, organisms, and soils of the wetland act upon suspended elements within water. Their combined action filter, collect or decompose material in the water entering a wetland, resulting in the discharge of cleaner water. This

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function is especially important in areas relying upon potable groundwater sources for the recreational or potable use of nearby surface water.

Open Space/Aesthetic: Wetlands can be appreciated for the visual diversity they add to a developed area, although this is clearly the most subjective attribute of wetlands. Leaving wetlands in their natural state creates areas in contrast to structures, pavement and landscaped lawns. Wetlands can also serve as a buffer between different types of development projects or uses.

Wetlands in Lysander

The preceding section describes the general benefits of wetlands and why they are protected. Wetlands vary in character, quality, and size, as well as in the relative importance of each function. Both State and Federal agencies have identified and classified wetlands according to plant and animal life, soil data and topography.

Wetlands are concentrated along the Seneca River, in the Cold Springs Peninsula, and in a broad band running east/west across the central part of the Town. The western peninsula has several small wetlands but, in general, is less affected than other portions of the Town. The third largest wetland complex in the County encompasses portions of Beaver Lake Nature Center, Three Rivers Wildlife Management Area, and Dinglehole Swamp and covers 2793 acres.

Most of the wetlands are outside the boundaries of the Onondaga County Sanitary District. This is significant to the Town since most development outside the Sanitary District will rely upon groundwater supplies and on-site septic disposal. Since wetlands contribute to groundwater quantity and quality, it is important for existing and future residential development that the wetlands' integrity be maintained.

Wetlands within the Onondaga County Sanitary District boundary occur in two general areas: inland sites and along the river. The inland sites will be affected by the greater intensity of development occurring in the Sanitary District since this development will cause an increase in surface water run-off. The wetlands are part of the natural drainage system and should be protected to maintain this function. These inland wetlands can also provide the open space requirements for a development and aesthetically serve to stand in contrast to the landscaped character of adjoining developments.

Wetlands along the river are important for flood storage, water quality, and animal habitat.

Treatment of Wetlands

The Town's response to wetlands will be carried out through its zoning and subdivision controls, including the SEQR review process and coordination with NYSDEC and/or the CORPS. These two permitting agencies respond to the specifics of a proposal and how it may affect a particular wetland. They may require shifting structures or improvements to avoid wetland intrusion and to lessen impacts, but they will not control the basic land uses. The Town establishes basic ground rules through its land use and lot size controls to which NYSDEC and the CORPS will have to respond. Therefore, the Town needs to establish land use controls and policies consistent with the respective wetland functions.

Generally, wetlands outside the Sanitary District will require low-intensity uses with large lots that will not overtax subsurface water supplies or the soil's septic absorption capacity; large lots will enable structures and septic systems to be kept away from wetlands.

Developments within the Sanitary District will tend to have water and sewer service and, therefore, can be more intensely developed. Wetlands protection in this area should emphasize the careful use of wetlands as drainage areas and open space. Subdivision design, which utilizes smaller lots, may be the means of accommodating more intense development while leaving the adjoining wetlands intact.

Flood Hazard Areas

Areas subject to periodic flooding are shown on the Hydrology map; this map depicts the likely boundaries of a 100-year intensity flood event as determined by a flood insurance study of the Town. This and similar studies are prepared by the Federal Emergency Management Agency (FEMA) pursuant to the National Flood Insurance Program. This program aims to minimize flood damage to new developments located in flood-hazard areas. The Federal regulations and guidelines are intended to minimize damage caused by flood waters. The guidelines recognize two subareas within the flood hazard area: the floodway and the flood fringe. The floodway is the area within which flood waters are expected to flow and generally includes the stream channel and adjoining banks. The flood fringe is commonly called the flood plain and is the area of land expected to be inundated with standing or slow-moving water. Within the floodway, Federal guidelines permit no structures that could obstruct or be dislodged by flowing water. The guidelines permit a range of activities within the floodplain provided proper flood protection measures are taken. These measures include elevation of the lowest habitable floor level to or above the 100-year flood level, flood proofing and/or elevation of utilities and roads, and anchoring non-permanent structures. The FEMA guidelines are generally focused on the manner of construction to reduce the likelihood that a 100-year storm would damage a structure.

Flood Hazard Areas in the Town

Areas subject to flooding within the Town are primarily located along the shoreline of the Seneca River and along several smaller streams. The two largest floodplains along streams are both in the western portion of the Town, one around Beaver Lake and tributary streams and the other around Ox Creek. Floodplains along the Seneca River are generally narrow except for some deep inland intrusions in the Cold Springs Peninsula. Portions of these lands along the river are also subject to flowage easements obtained by the NYS Department of Transportation (NYSDOT), which administers the Seneca River as part of the NYS Barge Canal. Within these flowage areas, the State has acquired flowage rights, so it may purposely flood these areas to regulate the level of the canal.

The Town maintains a dual system for controlling development within flood-prone areas: The Floodplain Zone District, which reinforces the NYS Barge Canal flowage easement and the separate Flood Damage Prevention Code established pursuant to the National Flood Insurance Program. Together, these two systems address the range of flood-related issues confronting the Town and provide mechanisms for review of development projects.

Steep Slopes

The slope or contour of the land is a characteristic that, besides describing if a site is hilly or flat, is a means of assessing its suitability for certain uses. It has generally been found that a slope in excess of 15% poses significant problems for construction. A site with this degree of gradient will require extensive cutting and filling and, thereby, the loss of vegetative cover. This, in turn, results in increased soil erosion and stormwater run-off. On-site septic systems also require fairly level areas to function properly and may not be able to be situated on a steeply sloped site. Slopes ranging from 8-15% present problems for the construction of roads, including excess run-off, erosion, and pavement slippage. Operationally, these roads can pose difficulties for maintenance, snow clearance, and the flow of traffic, which can be affected by different acceleration and stopping patterns.

The problems associated with steep slopes are not insurmountable but generally require extra expense and attention. The Town is the principal agency to oversee development on steep slopes. As such, the Town requires that where structures or roads are placed on a site, it must be done to minimize slope disturbance and that, when a slope is cut, the structure and slope are properly stabilized. The design shall be the responsibility of the developer's Professional Engineer, who shall also oversee the construction thereof.

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Lysander is not significantly affected by steep slopes. There are some steep slopes along the river, but these are mostly within the boundaries of the Barge Canal and, therefore, not developable. The other area affected is in the western portion of the Town, which is primarily agricultural. For development in these areas, the Town should ensure that any new lots will be large enough to provide a level area for structures and septic systems without extensive slope disturbance.

Soils

There are many characteristics of the soil and underlying subsurface that can affect the suitability of a site for development. Of principal community concern is the availability of groundwater and the ability to handle on-site septic disposal. Lack of one or both of these needs will generally require a Town response either in the provision of a service or restrictions upon development. Other factors, such as soil stability and drainage are resolvable through construction techniques or overlap with environmental characteristics discussed in other sections of this Plan.

Availability of groundwater and limitations of soils for septic absorption fields have been mapped (see Septic Suitability). Adequate supplies of groundwater are available in most of the Town from unconsolidated deposits or from bedrock, and groundwater supplies do not seem to pose a general constraint upon development. One problem area where the supply of groundwater may be variable from both sources is in the western part of the Town, north of the hamlet of Lysander.

Limitations of soils for septic drain field absorption are presented in three categories: slight, moderate, and severe. These terms are derived from the measurement of a variety of factors such as soil permeability, slope, and depth to bedrock and indicate the relative difficulty in designing and installing an adequate septic system. In all instances, a properly functioning septic system is technically possible, but expensive modifications may have to be incorporated with difficult soil conditions; possible modifications include enlargement of the septic field to better disperse wastewater or importation of more suitable soils onto a site. The map of soil limitations for septic tank absorption fields indicates that most of the Town has significant problems with on-site septic systems.

A typical on-site septic system will receive sanitary waste from the house, remove and treat solids in the septic tank, and distribute the remaining wastewater to a tile filter field which regulates the dispersal of wastewater into the ground. Once in the ground, the remaining waste is treated by natural bacteria and filtered by soil. Eventually, the cleansed wastewater will reach a subsurface water table. The design size, location, and construction of a filter field depend on the anticipated septic flow rate, soil conditions, and

other site characteristics. The filter field can be expected to minimally cover an area of 40 x 60 feet; it must also be separated from surrounding property lines, structures, surface water bodies, and water wells.

The Onondaga County Sanitary Code establishes the requirements for installation of a septic disposal system. The code also stipulates that the minimum area for a lot with on-site septic disposal is 40,000 sq. ft. This lot size provides the minimum area to accommodate the space for a typical structure and the filter field given the soil conditions found generally within the County. If public water is available to the lot, it's 20,000 sq. ft.

Summary of Environmental Components

The physical characteristics of the Town have been categorized into a series of features, namely wetlands, floodplains, steep slopes, soil types, and groundwater characteristics. Some of these features are subject to separate regulatory controls at the Federal or State level, while others are peripherally addressed during local permit reviews. The Town recognizes that:

1. All of these features represent complex environmental systems and are highly interrelated.
2. Each feature possesses a variety of attributes that present both constraints and opportunities for land development.
3. These attributes must be balanced against development regulations established by the Town's zoning ordinance.
4. The Town shares responsibility with Federal, State, and County governments in assuring that any development activity avoids unnecessary disruption of these natural systems and includes adequate mitigation measures when appropriate.

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Cultural Features

Cultural features are manmade additions to the natural environment; certain features, because of their antiquity, uniqueness or ability to interpret past cultures, are deemed worth preserving. Two cultural features in Lysander need consideration when the Town reviews development proposals: archeological resources and historic sites and structures. This consideration should be a routine part of any SEQR significance determination and is specifically addressed on the Environmental Assessment Form.

Archeological Resources

Archeological resources include objects (artifacts) and sites below the ground that are significant to our cultural heritage. Archeologically sensitive areas may contain objects and sites that will help explain life in prehistoric times before the European occupation of the land. Archeological resources, if destroyed by development, cannot be replaced.

The primary area in Lysander with a higher than average probability of finding such resources is along the Seneca River from Cold Springs to Cross Lake; a further area is located around West Phoenix. Designation of such areas means there is a higher probability of finding such resources, not that such artifacts will be discovered on every parcel within the designated areas. Likewise, it is possible that new sites or artifacts could be found outside these designated areas since not every prehistoric site is known. All suspected impacts on such sites, as well as any project involving significant land disturbance within one of the designated areas, should be brought to the attention of the Office of the State Archeologist in Albany.

Historic Sites and Structures

Lysander is a livable community when, for all intents and purposes, it has been able to preserve elements of historic small-town America. There are 29 sites in Lysander (outside the Village), according to the Town of Lysander Environmental Inventory prepared by the Onondaga County Environmental Management Council (circa 1998), as historic. One of these sites, Whig Hill on Route 370 east of Plainville, is on the National Register of Historic Places. Thirteen historic sites or structures are located in or near the hamlet of Lysander, four in and around the hamlet of Plainville, and the remaining 11 are scattered throughout the Town.

The one site on the National Register enjoys several direct safeguards under the 1966 National Historic Preservation Act. Projects that affect National Register properties must be reviewed by a special governmental advisory council to determine if there will be any environmental impact. Owners of registered properties can receive tax incentives for

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rehabilitating these properties but are subject to disincentives if historic structures are demolished. In addition, any action on or adjacent to a site on the National Register or a site proposed for inclusion in the Register is automatically classified Type I action under SEQR. Two questions on the Environmental Assessment Form address actions that would impact historic structures or sites.

Issues

- There are significant environmental features distributed throughout the Town, present in both suburban and rural areas. Adverse effects on features are not limited to the suburban portions, but also occur with rural development practices. In rural and suburban settings, the Town needs to foster the proper use and protection of environmental features. The different development practices and needs of the two areas may preclude the use of identical treatments of features.
- Town policies and procedures include zoning and subdivision controls and the administration of public facilities. These three mechanisms need to work in concert to ensure the most appropriate use of a site or a larger area.
- Outside regulatory agencies play a significant role in the proper use and protection of specific features. Their role, however, is primarily to respond to the specifics of a development proposal or to the development's proximity to an environmental feature. These agencies will protect specific environmental features from a definite proposal, but their mandate may not provide the means to address the incremental and cumulative effect of development within an area. The Town's perspective on the proper use and protection of the physical environment is broader based and more encompassing. The Town needs to find ways to ensure that the policies and permit requirements of these outside agencies are coordinated with Town policies to provide effective environmental protection.

Policies

- The Town has designated land uses and intensities of development consistent with and non-disruptive to the natural environment.
- All development proposals must be designed to constructively interact with natural landforms to avoid the need for remedial construction of public facilities. Clustering of development to protect environmentally sensitive areas on a site is encouraged.

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- Drainage systems, public water, and, for lots smaller than 40,000 square feet, connection of sewers to Publicly Owned Treatment Facilities will be required in all subdivision developments within the County Sanitary District.
- If there are several significant environmental features within a site and developers are not able to provide comparable protection to all, the Town, in the course of project review, will establish priorities for the levels of protection to be afforded to each feature. Generally, the highest priority will be given to those features which are subject to Federal or State control and/or which have the least capacity for mitigation or remedial action.
- Development within areas having significant environmental constraints will be the least intensive possible while permitting both use of the land and protection of the environment.
- Cultural resources will be protected from adverse impacts of development through application of SEQR, zoning reviews, and subdivision regulations.

Implementation

To address environmental issues and achieve its policies, the Town has three basic methods:

These methods are State Environmental Quality Review (SEQR), coordination, and Town regulatory actions. Though presented separately for this discussion, they should be viewed as integral components of the Town's overall effort to promote the proper use and protection of environmental features.

SEQR

SEQR is probably the most commonly used tool that the Town will use to address the environmental implications of a project. The SEQR process is derived from the NYS Environmental Quality Review Act, and its accompanying regulations are administered by NYSDEC. Each government agency, including the Town Board, Planning Board, and Zoning Board of Appeals is required to comply with the SEQR process prior to issuing a permit or approval, funding an action, or directly completing an action. It includes zoning and subdivision reviews, authorization for public facilities, stream bank disturbances, and mining. Simple permits for buildings, driveways, or plumbing systems are usually not subject to SEQR since they involve minimal discretion.

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SEQR is an investigatory and analytic tool used by the lead and involved agencies to identify and understand the environmental implications of a proposed activity. It is used to identify both the beneficial and adverse impacts, to choose measures to lessen adverse impacts, and to help frame a project decision within a set of choices about the environment. Upon completion of the SEQR process, the lead agency has a good understanding of the relative environmental costs and benefits of a project. It then uses that understanding to support and guide its decision on the nonenvironmental aspects. The NYSDEC website gives guidance through a “Map of the SEQR Process,” which can be found at: <http://www.dec.ny.gov/permits/32521.html>

Town involvement with SEQR will occur either as a “lead agency,” an “involved agency,” or an “interested” agency. A lead agency is one that is issuing a permit or approval, funding an action, or directly undertaking an action. It is chosen (or it chooses) to see to it that the SEQR process is followed out correctly, and it guides the SEQR process through from start to finish. By law, a lead agency is also an involved agency; it is the involved agency that is most knowledgeable and responsible for the proposed action. An involved agency is defined by SEQR as an agency that has some decision to make on a pending project; this usually entails a zoning or subdivision review. Involved agencies that aren’t chosen as the lead agency work closely with the lead agency in the SEQR review process.

The Town may be an interested agency on a project when it does not have a decision to make but wants to stay informed about the proposed action; examples of this may include wetlands permits, mining permits, or Agricultural District formation.

When the Town is the lead agency, it will be responsible for preparing or participating in the preparation of an environmental analysis. The Town should use the Natural Resource Inventory Maps prepared by the Onondaga County Environmental Management Council, soil survey data from the Soil Conservation Service, and similar resources to assist in the development of facts and issues about the project. These sources are the result of research by various agencies into the characteristics of the physical environment. They provide an excellent point for the Town to begin its analysis of how a project will affect various environmental features.

The SEQR regulations provide a procedure that an agency will follow in its environmental review. One of the most important steps is the identification of mitigation measures to lessen or remove the identified adverse impacts. Once the SEQR process is complete, the Town proceeds with the project evaluation based upon other issues such as land use compatibility, site design, effect on the tax base, and economic impact.

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SEQR organizes projects or actions into three basic types: a Type I Action is considered likely to have an identifiable impact, a Type II is not likely to have such impacts, and Unlisted Actions are projects neither on the Type I or Type II list. Type I actions always trigger a higher level of analysis; Type II actions are not subject to SEQR review. Unlisted Actions are neither on the Type I or the Type II list. They make up the greatest number of actions reviewed in New York.

Depending upon the project, Unlisted Actions may trigger a full environmental impact statement or minimal review. It is recommended the Town consider the following:

- For all projects: Ensure that SEQR is incorporated into the review of the project, determine the type of action (Type I, II, or Unlisted), and outline the necessary analysis.
- For Unlisted actions: Be ready to identify potential impacts based on project scale or proximity to a feature shown on the environmental inventory maps. Environmental analysis must be focused rather than being so broad that it unduly burdens the Town or the applicant.

The Town as an Interested Agency

The process described above is essentially the same for outside regulatory agencies, but as an “interested” agency, the Town participates informally in the SEQR process. These are approvals and decisions that affect land and property within the Town but do not require formal Town approval.

The precise role or interest that the Town may have in outside agencies’ permits will vary considerably, but the opportunity for the Town to make comments and suggestions exists in the SEQR process.

It is recommended the Town consider the following:

- The Town should contact NYSDEC, Onondaga County Department of Health, and the Army Corps of Engineers to ensure that the Town is notified directly of all pertinent environmental reviews conducted by these agencies.
- When notified, the Town Board should routinely review and comment upon a project for conformance to local requirements plus any environmental implications that it might identify.

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- The Town should delegate responsibility for environmental reviews to the Planning Board.

Coordination

Coordination is acting in concert with others to achieve a logical sequence of events or direction. For implementing the environmental component of the Town plan, coordination will most often be carried out by regular communication among Town agencies and the Town with outside regulatory agencies. Maintaining and enhancing this form of coordination is especially important during a project SEQR review. SEQR provides the means to identify and compare the different permit requirements, establish a workable schedule of agency reviews, determine appropriate submission requirements, and enable agencies to jointly assess the environmental implications of their respective approvals. The Town needs to reserve time during project reviews to accomplish coordination.

Town Regulatory Actions

The tools available to the Town to foster the proper use and protection of the physical environment are its zoning and subdivision powers and its ability to provide public facilities. Acting separately or in conjunction with each other, these tools create the town's system for protecting the physical environment.

PUBLIC FACILITIES

Roadways, water and sewer lines are capital facilities that are incorporated into the physical environment and redefine the development potential of a site. By freeing a use from relying upon a groundwater supply or subsurface soil conditions, these facilities allow a site to be developed beyond its natural constraints. This physical enhancement increases the economic potential of land by enabling it to support more dense development. In other words, if these capital facilities can be made available through incentive zoning, the lots per acre could increase. The increase in density should not, however, be used to consume environmentally sensitive areas or circumvent the constraints imposed by this CLUP, including the preservation of farmland, open space, woodlands, and the like.

Public facilities should be used to enhance the following environmental objectives:

- Public facilities must be provided to development sites within the County Sanitary District in a manner that avoids disturbances of any identified significant environmental features.
- Public facilities must be arranged so that associated lots and/or structures do not intrude upon or disturb any identified significant environmental features.
- Public facilities must not be extended into an environmentally sensitive area unless it is necessary to alleviate an existing public health or safety concern.
- Recent trends in residential development seem to favor multiple mixed lot/home size communities as opposed to 40,000 SF lots in particular districts, allowing developers to adjust to changes in the market, especially over the modulating rate of demand experienced the past 10 years. This gives rise to the concept of “Incentive Zoning Overlays” where appropriate; for example The Cold Springs Peninsula is in need of sewers, Zoning Overlays would allow increased density (smaller lots) in exchange for a developer’s agreement to connect existing dry sewers and extending them to the existing Wastewater Treatment Plant or to building “through streets” in lieu of cul-de-sacs to improve traffic conditions, especially on the Cold Springs Peninsula.

Subdivision Design Guidelines

1. Lot Size and Arrangement

- When public facilities are made available, lots can be sized and arranged so that the maximum number of lots is placed upon the portions of a site unaffected by any significant environmental feature. To achieve this, lots on the unaffected portions of a site should be the minimum permitted lot size to allow maximum placement of lots in these areas.
- Maximizing the number of lots allows for the greatest potential to pay for the expense of providing and maintaining public facilities.
- When public utilities are not available, lots should be sized and arranged so that the minimum number of lots are in proximity to sensitive features such as wetlands and flood hazard areas. Lots should be enlarged where possible to lessen the likelihood of any intrusions into a significant environmental feature.

2. Management of a Sensitive Feature

- When public utilities are available, the environmentally sensitive portions of a site may be included as part of the tract's open space dedication to be administered by either the Town, a private homeowners association, or some other method. The Town should avoid accepting such environmentally sensitive areas without a clear agreement concerning ownership and maintenance; such areas may not be suitable as intensive recreation sites.
- When public facilities are not available, environmentally sensitive areas will generally have to be protected by the individual lot owners. A sensitive area can be divided into abutting lots and not established as its own lot, which would be subject to further subdivision requests or potential abandonment. Any environmentally sensitive feature could still be purchased by an environmental group for preservation purposes.

3. Techniques

- NYS Town Law §278 provides for the modification of zoning requirements by a planning board during a subdivision review. This process is explicitly intended to

assist in the protection of the environment and can be used to reduce required lot geometrics or yard setbacks to avoid or lessen disturbance of a significant feature. Overall development density is not changed for a development site but redistributed within the site. This process is especially useful when public facilities are available and increases the amount of land unaffected by structures and, therefore, potentially useful as open space. Care should be taken in the base plan to avoid counting acreage that could not be developed because of terrain, wetlands, protected farmland, woodlands, parkland, etc.

- Lot width/depth ratio is a common requirement of local subdivision regulations and is specified at 1:4 by the Town. Modification of this maximum ratio can be considered when it serves to protect a sensitive feature from development intrusion, further subdivision activities, or abandonment. Such modifications will be more useful in areas not served by public facilities.

4. Zoning

The zoning classification of environmentally sensitive land should promote development that avoids intrusions and maximizes the separation between developed and environmentally sensitive areas.

- The zoning on land served by both public water and sewers should be at densities that promote concentration of development within portions of the site unaffected by a sensitive feature. The development densities must also be at levels that promote the economic provision of services.
- Lots with individual groundwater sources and on-site septic systems have a greater reliance on the proper functioning of natural systems. Hence, the integrity of sensitive features needs to be protected with larger lots to disperse human demands upon the systems.

COMMERCIAL AND INDUSTRIAL LAND USE

Current Patterns of Commercial and Industrial Development

Significant retail and service development in Lysander is limited by the Town's proximity to the Village of Baldwinsville, the Town of Clay, and areas south of the Town in Salina and Liverpool, where substantial retail and service facilities already exist. Therefore, new retail and service uses are expected to be on a lesser scale and designed to serve the immediate needs of adjacent residents.

The Town's retail and service uses are primarily intended to serve the local residents. Several farm equipment stores provide service to local farmers, farm stands provide produce to Lysander residents, and auto service outlets, restaurants, neighborhood stores, and service outlets are all locally oriented.

Office uses in the Town can be expected to grow mainly in Radisson and the village of Baldwinsville.

Heavy industrial uses are expected to continue to grow in the Radisson Business Park, with additional businesses in several scattered locations. The Town's largest industry is the Anheuser-Busch Brewery, followed by McLane Northeast Food Distribution Facility, Agrana Fruit Processing Plant, Paperworks, and G & L Davis.

The Town is experiencing positive industrial growth due to the following factors: a sound labor force, attractive residential properties, an exceptional education system, and access to dependable transportation and utilities. The town has demonstrated a willingness to collaborate with industry to develop suitable waste treatment/pre-treatment facilities to promote development with consideration to the current WWTF limitations.

Issues

The current Zoning for Commercial and Industrial land use appears to be more than adequate, with four Districts dedicated to various degrees of Retail/Service use and one district to Industrial use.

Policies

- Retail and service businesses should be concentrated in hamlets adjacent to the Village of Baldwinsville or in specially designated retail areas along major arterials. Scattered strip retail stores must be discouraged as a general policy.

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- Significant office development should occur in office park settings or in combination with other significant retail/service developments.
- Heavy commercial and industrial uses should be concentrated in the Radisson Industrial Park or selected industrial areas designated on the Zoning map. These industrial areas should be large enough to accommodate major buildings, be buffered from any surrounding residential areas, have adequate transportation access to major arterials, be capable of being served by public water and sewers, and not have any significant environmental impediments.

Implementation

The following is a detailed commentary on existing and proposed commercial and industrial development in the Town;

1. The Town should continue its strong relationships with the Onondaga County Planning Agency, the County's Office of Economic Development, and the Onondaga County Industrial Development Agency (OCIDA). As an integral part, its database should be updated and reviewed at least quarterly.
2. There are currently approximately 490 acres of undeveloped industrial land in the Town, including the undeveloped industrial land in the Radisson Corporate Park. There are only two industrial areas outside the Radisson Corporate Park. Both of these industrial areas are not currently served by water and sewer utilities and would require utility extensions prior to being developed.

There are a number of areas other than Radisson with access to public water and sewers, as well as a location on a collector or arterial highway. One example is the area north of Hencle Boulevard between Smokey Hollow Road and Route 48. The site is within the County's Consolidated Sanitary District. The site is vacant and has a railroad along its northeastern boundary, a few residences, an American Legion Post on the eastern side, vacant land to the south, and vacant land and a few scattered residences to the west and north. Either collector or arterial highways are on three sides of the site; access to Hencle Boulevard is restricted by deed to a 60-foot curb cut along one parcel, with the exact access point to be determined by the County's Department of Transportation. Other access points would be needed from either Smokey Hollow Road through existing occupied parcels or from Route 48; along Route 48, access is restricted immediately north of the intersection with Hencle Boulevard, and an access point would have to include some land north of the County's Consolidated Sanitary District boundary lines.

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The site has small areas in State wetlands along with several additional scattered areas of national wetlands; there is a large power line right-of-way through the site. Even after eliminating areas affected by these problems, there is significant developable land available from the approximately 210 vacant acres. The Smokey Hollow Water Supply District is located in the southeast corner of the site, with the Route 48 Water Supply District located directly south of Hencle Boulevard.

3. The effect of a large amount of commercially zoned area along Route 48 north of the terminus of 690 (combined with other industrially zoned areas) is to create the potential for a number of commercial enterprises with individual access points onto the highway. Route 48 is already a main route connecting Onondaga and Oswego Counties and carries significant truck and car traffic (counts as high as 8400 AADT). Town planning for commercial uses along Route 48 must encourage site designs that limit access points, combine access points where feasible, and ensure that access points are properly located. Multiple strip commercial uses with vaguely defined curb cuts must be avoided. Any further speculative re-zoning to commercial districts is also to be avoided; sufficient land is now zoned to handle any significant commercial uses that might wish to locate along Route 48. Special attention in terms of future commercial development needs to be given to sites adjacent to the Wildlife Management Area; certain commercial uses may detract from the open space character of the Management Area. Buffer strips and other design alterations may be necessary for commercial sites adjacent to the Wildlife Management Area.
4. The Town should entertain a zone change(s) to an appropriate commercial district when residential development in a particular area attains a sufficient level to support retail services. Through the zone change process, the Town can specify the exact location, extent, and sequence of commercial development within this area. Properties not needed for commercial use should be zoned and developed appropriately.
5. Route 370 west of the Village is relatively undeveloped in terms of commercial uses, primarily because it is zoned AR-40 and should continue to be. The hamlet of Plainville should retain its commercial zoning.
6. In the remainder of the Town, there are small commercially zoned areas around the hamlets of Lysander, Little Utica, and Jack's Reef. These commercial areas should be made to conform to parcel boundaries and to commercially usable properties. Any other spot commercial development along highways in the rural portions of the Town should be discouraged.
7. The Town's zoning ordinance contains four commercial zoning districts as follows:

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- Neighborhood Residential-Business
- Retail Services
- General Business
- General Commercial

Each serves the particular needs of the Geographic and Demographic area depicted on the Zoning Map.

8. For large-scale residential developments, particularly the type that may eventually occur in the eastern peninsula area of the Town, some form of “Incentive Zoning” similar to that described in the Residential Land Use Section or a PUD procedure should be utilized so that commercial sites as well as Parks are predetermined and scheduled to be built as residential development warrants. Such a procedure assures that all elements necessary for a well-rounded community will be planned in advance and ensures that commercial uses will not be permitted to develop in a manner incompatible with residential or other noncommercial land uses. In addition, it must consider and allocate appropriate Open Land to preserve view sheds.

RESIDENTIAL LAND USE

The adoption of the Incentive Zoning Overlay District in 2016 identified areas in the Town where higher-density development is allowed in exchange for community benefits and amenities. The objectives of the Incentive Zoning Overlay District were to provide an effective growth management tool for the Town to:

- Direct future development to areas that can be more effectively serviced by existing local infrastructure at a higher density than would normally be allowed under AR-40 zoning
- Use of smart growth and infill development principles to extend public sanitary sewer utilities to existing Town of Lysander residents
- Mitigate traffic impacts associated with increased demand for residential development
- Help distribute higher residential density development away from active farmland
- Preserve active productive farmland in the AR-40 and Agricultural zoning districts
- Preserve open space in the AR-40 and Agricultural zoning districts

Background

In the early 1990s, when The Town of Lysander Comprehensive Land Use Plan was first prepared, demand for single-family housing development was limited in the agricultural portions of the Town. The level of demand outside of the Radisson PUD and residential projects in the Cold Springs Peninsula off NY Route 370, in the vicinity of the Baldwinsville Seneca Knolls Treatment Plant, did not justify the developer's expense to extend necessary municipal facilities to new housing developments at sustainable densities. As such, lot size requirements for development outside of the existing sewer system network were established and codified to meet the requirements for on-site sewage disposal systems. Over the past 30 years, development pressure has increased, and suburban sprawl started to take hold in the AR-40 zoning districts. Development on 40,000 sf lots has resulted in Town roadways being constructed that were not sustainable at the current highway tax rate.

The Incentive Zoning Overlay has proven to be effective. Only two (2) significant new residential subdivisions have been approved in the Town of Lysander since the Incentive Zoning Overlay was adopted in 2016, and both were located in the Incentive Zoning Overlay District. Both new Incentive Zoning developments minimize the amount

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of farmland consumed by residential development pressure and utilized smart growth and infill development principles, thereby maintaining the Town's reputation as a desirable place to live and work.

Residential Development Projections

The potential loss of agriculture and open space, particularly in the AR-40 Zoning District, is the direct result of development pressure for single-family housing. Based upon a GIS evaluation of real property tax parcels and Census records, there are currently 9,300+/- total residential units in the Town. Roughly 50% of the Town population is within prime wage-earning age, and the demand for single-family residences is expected to outpace all other land use for the next five to ten years.

Growth projections originally outlined in the 2002 Town of Lysander Parks and Recreation Master Plan of 6,916 total units in the AR-40, taking into account zone change requests and approvals to allow R-20 density, were off the mark due to a significant downturn in the economy, which began in late 2008 and persisted into early 2014. Recent development trends have returned to historic levels. Now that Radisson has been mostly built-out, development pressures appear to be concentrated in the Cold Springs Peninsula, especially in the Timber Banks PUD, and along the NY Route 370 corridor southeasterly from the Village of Baldwinsville. However, due to the lack of proximity of the Baldwinsville Seneca Knolls or the Wetzell Road Sewer Treatment Plant from most of the developable land in the Peninsula and the expense to developers of extending public sewers any significant distance from their own land and new capacity pressures from industry, the number of residential subdivisions in the Peninsula that will be served by public sewers may be limited for the near future. Future residential development in the Peninsula will be a mixture of subdivisions served by public sewers and subdivisions served by septic systems. Through the IZ process, encouraging developers to work with the community to extend the needed infrastructure subdivisions served by public sewers serve to conserve available agricultural land and open space by concentrating houses on smaller, R-20 and R-12.5 lots. It is anticipated that future development trends in the Town of Lysander will continue to be a mix of single-family units and apartments, with an increased demand for apartments as the community population ages.

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Building Permits

The following table outlines a 10-year trend analysis concerning building permits issued in the Town of Lysander.

HOUSING UNITS AUTHORIZED BY BUILDING PERMITS			
YEAR	TOTAL	ONE-FAMILY	MULTI-FAMILY
2012	111	31	80
2013	80	44	36
2014	157	77	80
2015	91	65	26
2016	70	70	0
2017	44	44	0
2018	38	38	0
2019	52	52	0
2020	81	81	0
2021	61	61	0
TOTAL	785	563	222
10 YEAR AVERAGE/YEAR	79	56	22.2
MOST RECENT 5 YEAR AVERAGE	55	55	0

Note: The number of building permits issued annually over the most recent 10 and 5-year periods range from 157 to 38 housing units respectively, approximately a third of these were multi-family units. It is anticipated that future development trends in the Town of Lysander will continue to be a mix of single-family units and apartments, with an increased demand for apartments as the community population ages. It is reasonable to predict something closer to our ten-year average of 79 housing units annually are likely to be built each of the next 10 years as the population ages.

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Current Subdivisions Approved or Under Review

The table below outlines all residential subdivision proposals for the AR-40 Zoning District approved or under review by the Town as of year-end 2021

Name of Subdivision	Number of Units	Comments
Whitetail Woods	90	Estimated at Full Build-out
Pompo Woods	30	Estimated at Full Build-out
Timber Banks	550	Estimated at Full Build-out
Collington Pointe East	89	Also known as Copper River
Whispering Oaks, Section 4	35	Also known as Cabbage Patch
Melvin Farms	TBD	
Total Development Lots Proposed	794	

Future Development Concerns

- At what density should residential subdivision development occur?
- What areas should be developed for residential subdivisions, and in what time frame; how does this relate to the provision of necessary services?
- How can the Town plan for residential growth that does not compromise the functional aspects of the transportation system?
- Should residential development be encouraged in areas outside of the County's Consolidated Sanitary District boundary?
- Should the Town continue to allow zone changes to increase the underlying density of the AR-40 and (A) zoning districts?
- What changes to the zoning ordinance or subdivision regulations are needed to achieve the desired residential development patterns?
- How can residential development be made compatible with other Town priorities, such as protecting environmentally sensitive areas and preserving the highway functionality of Town arterials and collectors?
- How can residential development be managed in a manner that curbs urban sprawl and the impacts of land consumption associated with such development trends, particularly in the AR-40 Zoning District on the Cold Springs Peninsula?

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- How can the Town plan for residential growth in a way that mitigates the long-term tax burden associated with operation and maintenance (O&M) of infrastructure?

Policies

The following policies have been established in response to increasing concern regarding the perceived loss of local agricultural operations and the potential impacts that new residential development may have on the transportation and public infrastructure systems and other municipal services (i.e., schools, fire departments, etc.).

- Higher residential diversities will be encouraged in new subdivisions included in the IZ Overlay, as previously discussed, to allow for higher residential development densities in exchange for community benefits.
- For areas outside the County's Consolidated Sanitary Sewer District, the minimum residential lot size will be two +/- acres per single-family residential unit; lot sizes larger than two acres may be justified to achieve goals beyond environmental protection.
- Flexibility in the design of subdivisions will be encouraged to provide a variety of housing opportunities, to permit protection of environmentally sensitive or unique natural areas, to permit creative use of natural topography and landforms, and to preserve mature trees wherever possible.
- Encourage more concentrated residential development in the AR-40 suitable for residential development and, through IZ, make logical infrastructure extensions happen.
- Housing growth must proceed at a sustainable pace and be encouraged in locations consistent with the availability of public facilities.
- Residential growth adjacent to the Seneca River system must be of a scale and design to preserve the aesthetic quality of the river and protect the river from environmental degradation.

Implementation Procedures:

Agricultural (A) District

This district was established for areas outside the existing County Consolidated Sanitary Sewer District where neither public water nor sewer is available.

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The 80,000 square-foot lot size provides ample room to locate a well and a septic system while providing additional area to relocate either facility, if necessary. The 80,000 square-foot lot size has sufficient area to allow siting of structures to avoid minor environmental problems on a site, such as wet areas or drainage swales. Larger lots in rural areas will also have less impact on adjacent agricultural uses since there will be greater buffer areas between homes and agricultural activities. Finally, the larger lot size will lower the overall density of housing in the Agricultural (A) Zoning District, where significant development pressure is not expected or desired by the Town.

The minimum lot width for the 80,000 square-foot lot should be 200 feet, except for lots along designated arterials and collectors. Front yard and rear yard setbacks are 50 feet, and maximum lot coverage is 25%, except along designated arterials and collectors where the front yard setback must comply with the requirements of the Town Highway Overlay District. Side yard setbacks can be a minimum of 20 feet on either side.

Uses permitted by right in the Agricultural (A) District will be single-family dwellings and farms, as is the current situation.

Agricultural – Residential District (AR-40)

This district will be used for undeveloped parcels within the County's Consolidated Sanitary Sewer District that do not currently have public sewers directly available. AR-40 lots typically will have Public water and septic systems. Uses permitted by right in this district will be single-family Dwellings and farms. The only controlled site use will be utility substations, churches, public Schools, and farm stands. Special permit uses include child daycare facilities, private schools, nursing homes, parks, playgrounds, recreational facilities (privately operated but not-for-profit), regulation golf courses, country stores, tourist homes, and veterinary treatment facilities. This district is intended for single lot and residential subdivision development at the 40,000 square foot lot size within reasonable proximity to existing infrastructure. Due to the extremely high public infrastructure maintenance cost for developments consisting of 40,000 square foot lots, the Town should require such developments to provide privately owned and maintained roadways built to Town standards. Cluster development principles should be encouraged in AR-40 areas served by public water where sanitary sewers are not available, and soils are suitable for onsite wastewater treatment systems.

Geometric requirements for the AR-40 District will include a 40,000 square-foot minimum lot size, 150-foot minimum lot width measured at the front yard setback line, a 50-foot front yard setback, a 50-foot rear yard setback, a minimum 15-foot side yard setback with both side yards combined to equal or exceed 40 feet, maximum lot coverage of 20% and a maximum building height of 30 feet.

Other Residential Districts

To avoid and minimize impacts upon significant environmental features and to promote the sound use of public facilities and infrastructure, the following districts are intended to promote the formation of moderate to high-density neighborhoods.

The Residential-20 (R-20) District is designed to encourage residential development in conjunction with the provision of public water and sewer services. This district is to be applied to areas already served by such facilities or to sites with planned developments that address the provision of essential water and sewer facilities.

The Residential-12.5 (R-12.5) District is intended to encourage medium-density residential development in conjunction with water and sewer services. Provisions for open space protection and/or recreation may be provided on a neighborhood or community basis and should include portions of sites affected by sensitive environmental features. Development within this district should encourage the formation of cohesive neighborhoods that are harmoniously blended with the lower or higher-intensity uses of surrounding areas.

Planned Unit Development (PUD) District

The PUD District will continue to provide flexibility in land use and geometric controls. To avoid conflicts with recommended provisions of the Town Land Use Plan, when a PUD General Project Plan provides for stricter supplemental regulations, then its controls shall govern a site development. PUD developments will continue to provide flexibility in land use for a combination of single-family homes, apartments, and higher-density condominium/townhouse development. Developers of PUDs will be expected to provide suitable wastewater disposal and all infrastructure to connect to all public utilities as well as open space as a part of their land use plan. PUD developments will be subject to Town Board approval for the PUD zone change request and the Town Planning Board for site plan review and approval. Existing PUD developments should be encouraged to develop at high densities to further prevent suburban sprawl and expensive long-term maintenance associated with utility and roadway extensions associated with low-density development.

Incentive Zoning

An incentive Zoning Overlay has been applied to multiple AR-40 parcels and to one Industrial parcel to allow developers to increase density and other concessions in exchange for any one or more of the following amenities:

- The provision of a conservation easement as shown.

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- Enrollment of such areas into a NYS Agriculture district.
- Provision of utilities and infrastructure, primarily sewers connected to a publicly owned wastewater treatment facility.
- The incorporation of natural resources such as woodlands, steep slopes, streams, and wetlands into the sub-division design.
- Provision of Park Land and trails.
- Provision of funds for the Town to apply to anyone or more of the above.

For the Industrial parcel, a developer must be willing to abide by any restriction placed on the site by the NYSDEC once remediation has been completed. The site can be developed either as Waterfront Residential or Commercial. Sewers connecting to a publicly owned wastewater treatment facility sized to accommodate the nearby residential parcels will also be required.

Where The Incentive Zoning Overlay shows the need for a conservation easement property currently owned by the farmer, it is the intent that if the farmer wishes to sell such property for development or wishes to self-develop, the easement be procured at the time of sale.

As a part of the Incentive Zoning process, the Town Planning Board must take an active role in working with the developer to ensure that fiscal analysis is proper for the scope of the entire development, not just for capital expense but must include life cycle analysis as well. This analysis must ensure that the Town is making sound investments that it and its residents can sustain long-term. That the development is consistent with the character of the community and takes advantage of the natural environment surrounding and within the subdivision.

Future Subdivision Applications

New applications for all significant subdivisions (5 or more lots) will require a site visit by a representative of the Planning Board, if not the entire Planning Board, with the developer's design professional, followed by a design discussion session to firmly establish the basis of the proposed subdivision design and sustainability of the proposed subdivision.

Justification for Non-Continuous Development

The Town may be approached by developers in the future for permission to develop in areas within the County Sanitary District not immediately adjacent to either existing development or to existing water and sewer infrastructure. In these instances, the Town

may require developers to provide justification for their proposed development. Such justification should include plans for developer funding of needed infrastructure expansion, an analysis of the new development's impact on adjacent areas of the Town, and a discussion of ancillary costs of development such as improvements to existing roads, new roads needed, and long-term environmental costs. The Town can request supporting documentation, such as a market study to provide assurance that there is a market for the new development. This justification will help protect the Town from a failed development that may leave large infrastructure costs to be carried by taxpayers of the Town or a small group of residents within sewer and water districts. The establishment of new PUDs in the Town will be an acceptable method of evaluating ways to mitigate illogical infrastructure extensions. The intent is to reduce the long-term burden of operation and maintenance of infrastructure on the local tax base.

PUBLIC SAFETY

Lysander has a long, proud history of providing services to the residents and visitors of our community. Lysander Town Government must continue to work closely with fire, ambulance and law enforcement agencies to provide quality services well into the future. The Lysander Town Board will continue to be active participants of the Lysander Public Safety Committee. Lysander will recognize the autonomy of the fire districts, but will continue to engage in open discussions to provide the best possible services to the community.

Implementation Procedures

The Lysander Planning Board has a protocol to notify all agencies of any new proposed developments within their districts or areas where services are provided. In addition, the Lysander Planning Board is responsible for providing a protocol for fire districts, in particular, to review and provide feedback on any and all housing developments and new commercial and industrial construction in Lysander. This will help ensure the inclusion of any modifications into a part of the site plan approval process.

The Public Safety Committee should assist the Districts in the development of common Standard Operating Procedures (SOPs) and to train their dedicated staff in such. It is felt that doing so will facilitate training of new members, perhaps in a more central manner than is currently practiced. Practices that are common from one District to another, to the extent possible given geographical/other differences, should also help to coordinate "Mutual Aid" and other multi-district activities such as recruiting and retention.

APPENDIX A: SMTC Traffic Study

Memorandum

TO: Town of Lysander Comprehensive Plan Update Committee

FROM: Meghan Vitale, SMTC

DATE: August 12, 2014

RE: Traffic data compilation and summary (Technical Memorandum #1)

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The SMTC has compiled intersection turning movement count data and available Annual Average Daily Traffic (AADT) data for a number of locations within the Town of Lysander. The data are summarized here for use by the Comprehensive Plan Update Committee members.

*Intersection turning movement count data*

The Committee provided the SMTC with a list of intersections of interest within and adjacent to the town. These intersections are listed in Table 1. As indicated in Table 1, turning movement counts were recently completed by NYSDOT or a consultant for some of these intersections; SMTC staff conducted turning movement counts for the remaining intersections. Detailed diagrams of each of the intersections counted by SMTC are included in Attachment A. Raw turning movement count data for the intersections counted by SMTC and NYSDOT are included in Attachment B.

Turning movement counts were conducted from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. The resulting AM and PM peak hour volumes are shown on Figure 1. The peak hours for each intersection are listed in Table 1, along with the type of traffic control for that intersection. In general, the intersections of interest experienced a morning peak hour from 7:00 a.m. to 8:00 a.m. and an evening peak hour from 4:45 p.m. to 5:45 p.m.

The Route 370/John Glenn Boulevard intersection, which is just outside of the Town of Lysander (in the Town of Salina), experiences the highest traffic volumes of all of the intersections included in this analysis. The intersections with the next highest traffic volumes are Route 370/Route 48 in the Village of Baldwinsville and Route 31/River Road. At the Route 370/Route 48 intersection, the northbound right-turn and westbound left-turn volumes are notably high, with about 430 vehicles during the AM peak hour and over 500 vehicles in the PM peak hour.

**Table 1: Summary of intersection data**

| <b>Intersection</b>                          | <b>Count date</b> | <b>Source</b>  | <b>Traffic control</b> | <b>Peak Hour Start</b> |           | <b>Total Entering Peak Hour Volume</b> |           |
|----------------------------------------------|-------------------|----------------|------------------------|------------------------|-----------|----------------------------------------|-----------|
|                                              |                   |                |                        | <b>AM</b>              | <b>PM</b> | <b>AM</b>                              | <b>PM</b> |
| Route 690 / Hencle Boulevard                 | June 2014         | SMTC           | Signalized             | 7:00 a.m.              | 4:45 p.m. | 1,200                                  | 1,440     |
| Route 370 / Route 690 southbound ramps       | June 2014         | SMTC           | Unsignalized           | 7:00 a.m.              | 4:45 p.m. | 910                                    | 1,060     |
| Route 370 / Route 690 northbound ramps       | June 2014         | SMTC           | Unsignalized           | 7:00 a.m.              | 4:45 p.m. | 630                                    | 1,120     |
| Route 370 / Route 48                         | June 2014         | SMTC           | Signalized             | 7:00 a.m.              | 4:30 p.m. | 1,670                                  | 2,060     |
| Route 370 / Route 631 (Baldwinsville Bypass) | June 2014         | SMTC           | Signalized             | 7:00 a.m.              | 5:00 p.m. | 630                                    | 850       |
| Route 370 / Hicks Road / Hayes Road          | October 2012      | GTS Consulting | Unsignalized           | 7:15 a.m.              | 4:45 p.m. | 930                                    | 1,010     |
| Route 370 / River Road                       | October 2012      | GTS Consulting | Unsignalized           | 7:15 a.m.              | 4:45 p.m. | 1,120                                  | 1,360     |
| Route 370 / John Glenn Boulevard             | October 2012      | NYSDOT         | Signalized             | 7:15 a.m.              | 4:45 p.m. | 2,520                                  | 3,120     |
| Route 31/ River Road                         | October 2012      | GTS Consulting | Signalized             | 7:00 a.m.              | 4:45 p.m. | 1,550                                  | 2,460     |
| River Road / Hicks Road / Patchett Road      | October 2012      | GTS Consulting | Unsignalized           | 8:00 a.m.              | 4:45 p.m. | 550*                                   | 800*      |

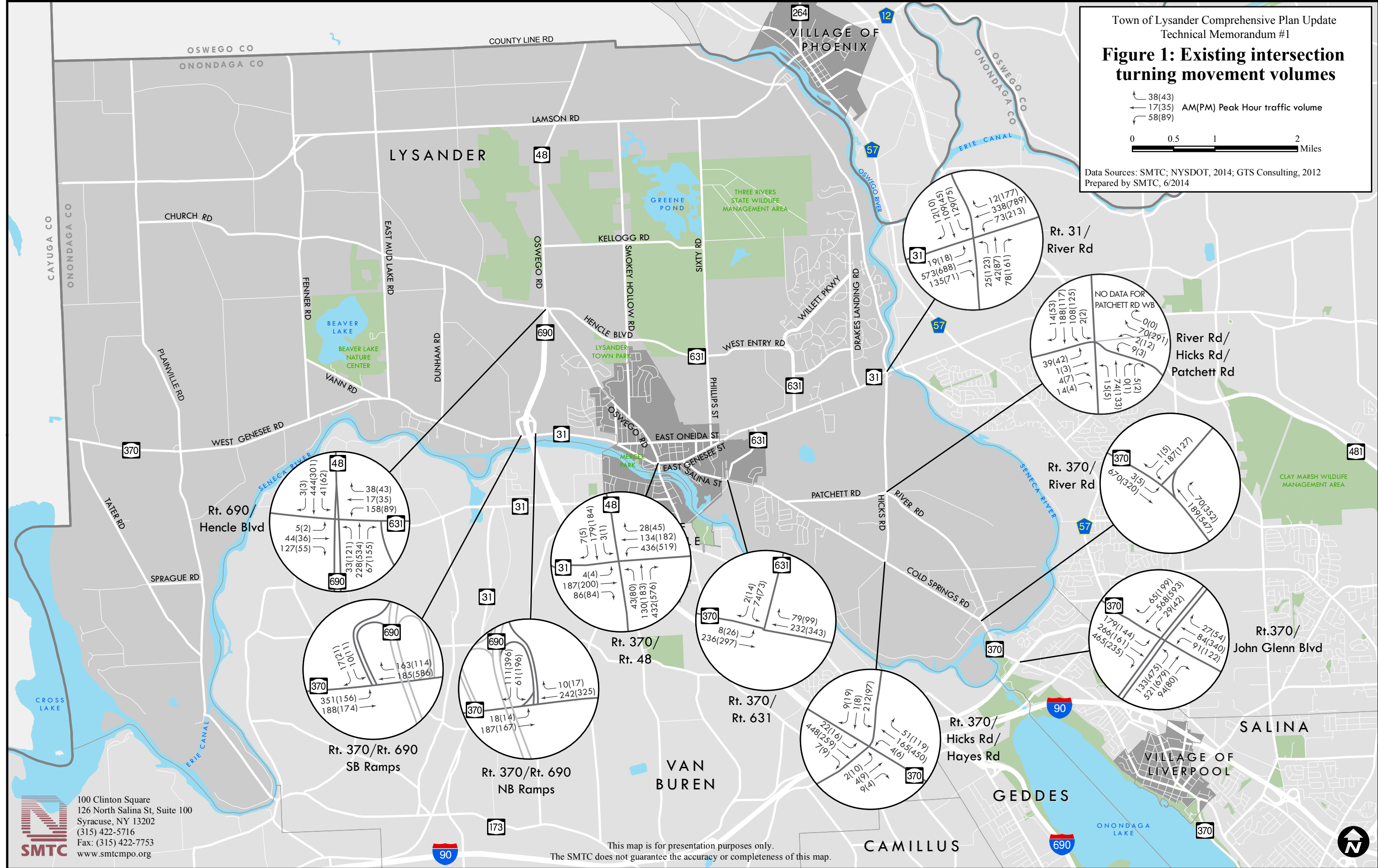
\* Does not include volume on Patchett Road westbound

**Figure 1: Existing intersection turning movement volumes**

38(43)  
 17(35) AM(PM) Peak Hour traffic volume  
 58(89)

0 0.5 1 2 Miles

Data Sources: SMTC; NYSDOT, 2014; GTS Consulting, 2012  
 Prepared by SMTC, 6/2014



100 Clinton Square  
 126 North Salina St, Suite 100  
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 www.smtcempo.org

This map is for presentation purposes only.  
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Table 2 compares the volume of traffic entering Route 690 southbound (SB on) and exiting Route 690 northbound (NB off) at the Routes 370/31 and Hencle Boulevard exits during the morning and evening peak hours. (Since Hencle Boulevard is the northern terminus of Route 690, traffic can only enter to travel southbound and exit from Route 690 northbound at this location. The exit at Routes 370/31 also allows for northbound entering and southbound exiting movements, but these volumes are relatively minor.)

**Table 2: Traffic entering and exiting Route 690 in the Town of Lysander  
(vehicles per hour)**

| <b>Route 690 exit</b> | <b>AM Peak Hour</b> |               | <b>PM Peak Hour</b> |               |
|-----------------------|---------------------|---------------|---------------------|---------------|
|                       | <b>SB on</b>        | <b>NB off</b> | <b>SB on</b>        | <b>NB off</b> |
| Routes 370/31         | 510                 | 170           | 270                 | 590           |
| Hencle Boulevard      | 730                 | 330           | 450                 | 810           |

As shown in Table 2, the AM peak hour southbound on (entering) volume and the PM peak hour northbound off (exiting) volume are the highest volumes. This is expected since these are the movements likely to be made by a commuter living in the Town of Lysander and working anywhere south of the town, including in Syracuse. Significantly more traffic utilizes the Hencle Boulevard exit for these movements than the Routes 370/31 exit, but this is largely due to the high northbound and southbound through movement volumes at the Route 690/Hencle Boulevard intersection. These are the turning movements that would be made by commuters accessing points north of Hencle Boulevard in the Town of Lysander and into Oswego County.

Most of the residential development within the Town of Lysander is located east of Route 690. The turning movement volumes at the two Route 690 exits for traffic to/from points to the east is fairly evenly split, with about 150-200 vehicles entering Route 690 southbound from the east during the AM peak hour and exiting Route 690 northbound to the east during the PM peak hour at each exit.

*Traffic volume data for road segments and bridges*

SMTC staff examined Annual Average Daily Traffic (AADT) data available from the NYSDOT Traffic Data Viewer for road segments throughout the Town of Lysander. Figure 2 shows the available AADT data.

The highest traffic volumes in the town are on Route 31 between the Village of Baldwinsville and the Town of Clay. With over 19,700 vehicles per day, the Route 370/Route 31 overlap within the Village of Baldwinsville is the segment with the highest traffic volume. Most of the other road segments with substantial traffic volumes are located in the southeastern portion of the town (Baldwinsville, Radisson, and Cold Springs areas). Route 48 north of Hencle Boulevard is an exception to this statement, carrying nearly 8,400 vehicles per day and providing access to/from Route 690.



The Seneca and Oswego Rivers form the southern and eastern borders of the town and, as such, access to the town is limited by the available bridges. Table 3 lists the bridges over the Seneca and Oswego Rivers along the border of the Town of Lysander and the AADT carried by each bridge.

**Table 3: Traffic volumes on bridges over the Seneca and Oswego Rivers accessing the Town of Lysander**

| <b>Road</b>     | <b>Location</b>                        | <b>AADT*<br/>(vehicles per day)</b> |
|-----------------|----------------------------------------|-------------------------------------|
| Plainville Road | Near Jack's Reef                       | 1,750                               |
| Route 690       | West of Village of Baldwinsville       | 17,550                              |
| Route 48        | Village of Baldwinsville               | 11,850                              |
| Route 370       | Southern tip of Cold Springs Peninsula | 13,350                              |
| Route 31        | East of Radisson                       | 21,180                              |
| Lamson Road     | Near Village of Phoenix                | 6,400                               |

\*Source: NYSDOT Traffic Data Viewer, all 2012 forecast volumes except Route 690 is 2012 actual volume.

Based on the traffic volumes in Table 3, most traffic accesses the Town of Lysander via the Route 31 bridge to/from the Town of Clay. Route 690, Route 370, and Route 48 also carry substantial traffic in and out of the Town of Lysander. The Plainville Road and Lamson Road bridges carry significantly less traffic.

### *Summary*

SMTC has examined the available intersection turning movement count data and AADT data for road segments within the Town of Lysander. The Route 370/Route 48 and Route 31/River Road intersections experience the highest traffic volumes of the intersections examined within the town, although more traffic uses the Route 370/John Glenn Boulevard intersection just over the town line in the Town of Salina. Route 690 and Route 31 carry the largest traffic volumes within the town. These roads, along with Route 48 and Route 370, provide access for most travelers to and from the town via bridges over the Seneca River. In general, the highest traffic volumes are on the roads in the southeastern portion of the Town, most notably Route 31, although Route 48 north of Hencle Boulevard also carries a substantial volume of traffic to and from Route 690 and points to the north.

## **Attachment A**





Intersection diagrams

# INTERSECTION DIAGRAM

Location

Route 370/31 and Route 48

## Legend

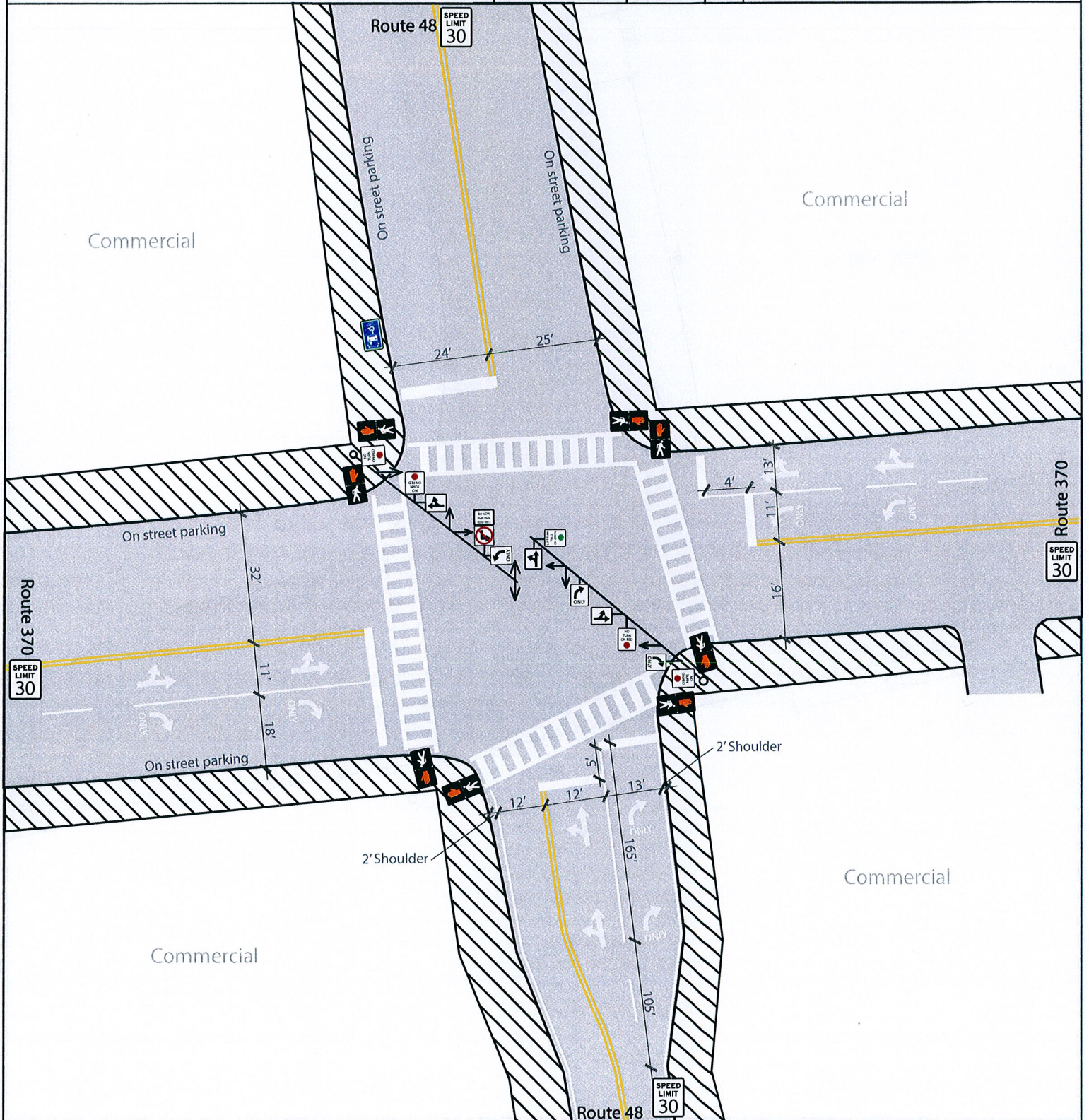
-  Sidewalk
-  Mast Arm
-  Traffic Signal
-  Distances in Feet

Drawn By DA  
Date June 2014

Prepared By SMTC



Note:  
Only actual pavement markings were drawn. An absence of arrows/stripping indicates no pavement markings.  
All approaches are curbed.



Task

Town of Lysander  
Comprehensive Plan Update

Data Source: SMTC, 2014.

Diagram is for presentation purposes only.  
SMTC does not guarantee the accuracy or completeness of this diagram.  
Diagram is not to scale

# INTERSECTION DIAGRAM

Location  
Route 370 and Route 631

## Legend

-  Traffic Signal
-  Span Wire
-  Distances in Feet

Drawn By DA

Prepared By

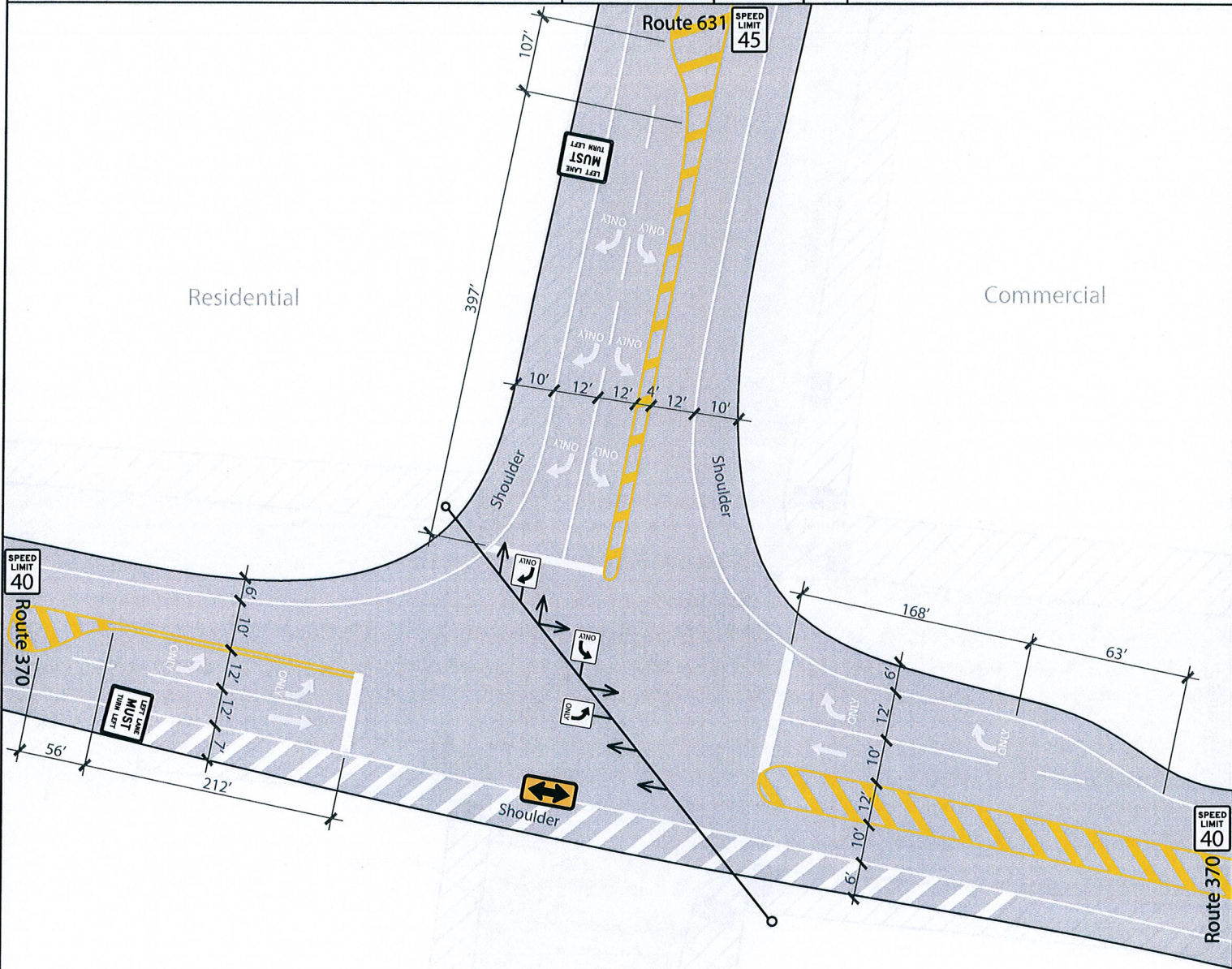


Note:  
Only actual pavement markings were drawn. An absence of arrows/stripping indicates no pavement markings.

Date June 2014

SMTC

No curbs on any approach.



Task  
Town of Lysander  
Comprehensive Plan Update

Data Source: SMTC, 2014.  
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of this diagram.  
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# INTERSECTION DIAGRAM

Location

Route 370 and Route 690 Ramps NB

## Legend

Distances  
in Feet

Drawn By DA

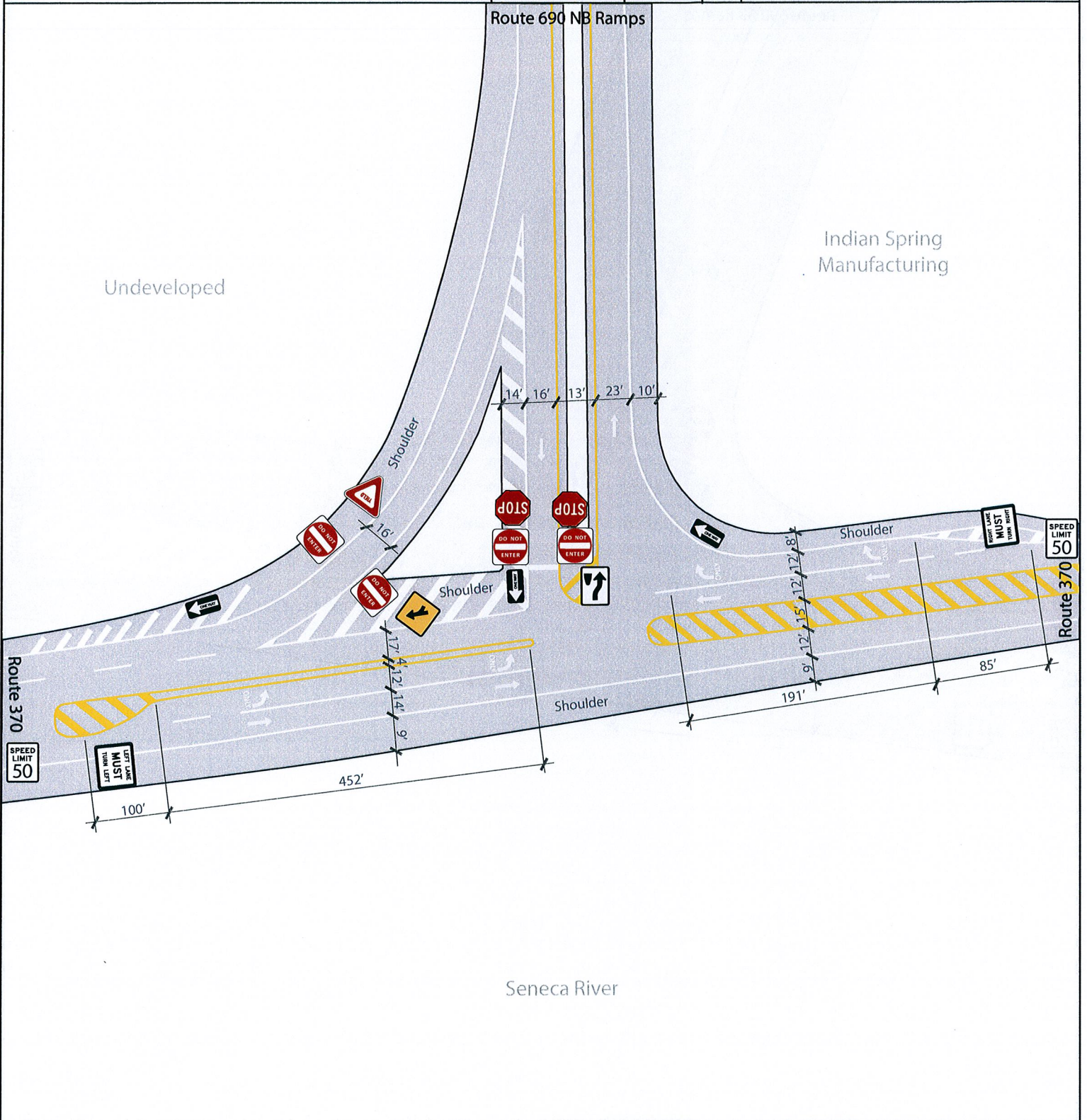
Prepared By SMTC



Note:  
Only actual pavement markings were drawn. An absence of arrows/stripping indicates no pavement markings.

Date June 2014

No curbs on any approach.



Task

Town of Lysander  
Comprehensive Plan Update

Data Source: SMTC, 2014.

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# INTERSECTION DIAGRAM

Location

Route 370 and Route 690 Ramps SB

## Legend

Distances in Feet

Drawn By DA

Prepared By



Note:  
Only actual pavement markings were drawn. An absence of arrows/stripping indicates no pavement markings.

Date June 2014

SMTC

No curbs on any approach.



Task

Town of Lysander  
Comprehensive Plan Update

Data Source: SMTC, 2014.

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# INTERSECTION DIAGRAM

Location

Route 690, Route 48, Hencle Blvd, and Church Rd

## Legend

-  Traffic Signal
-  Span Wire
-  Distances in Feet

Drawn By DA

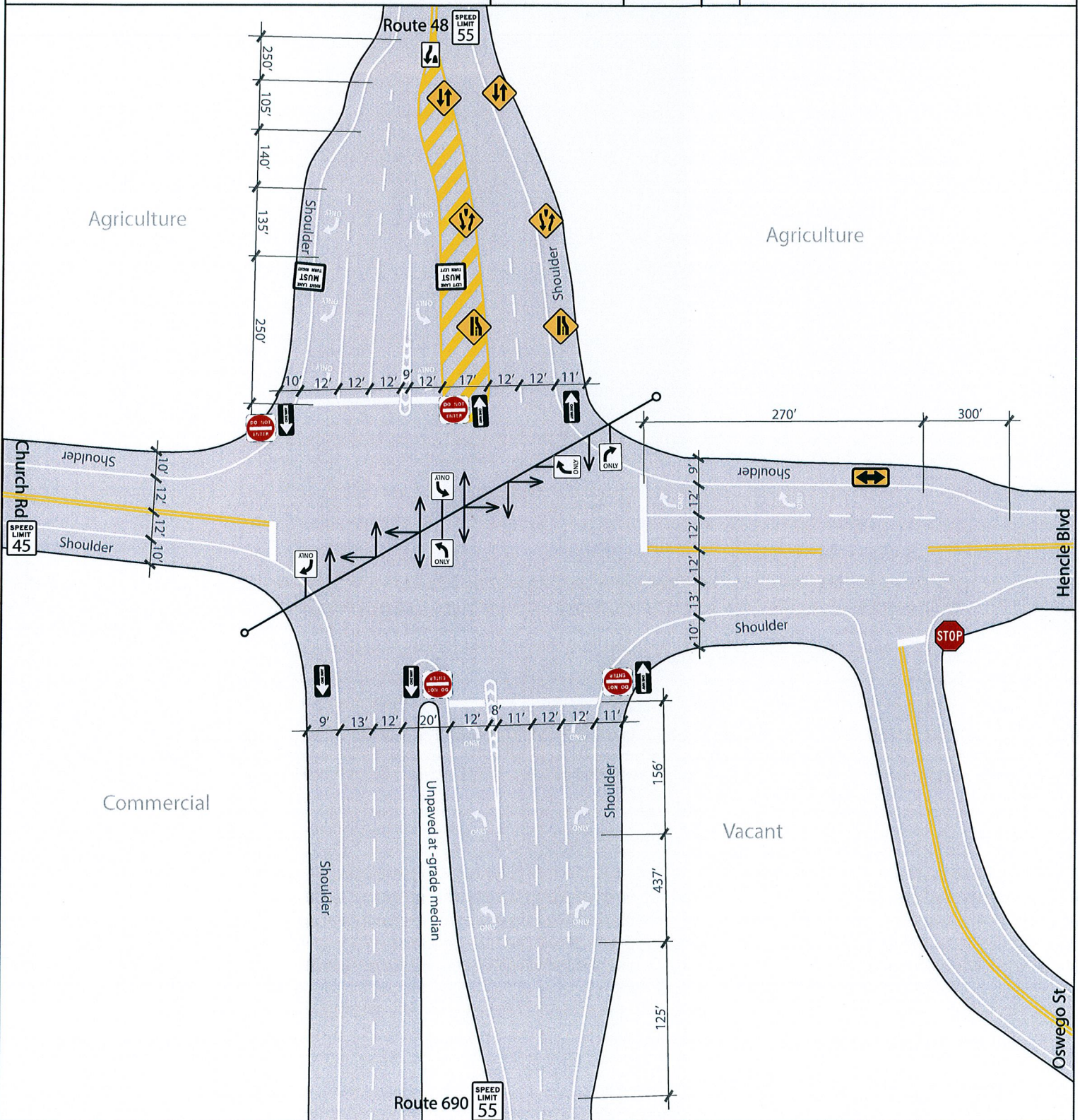
Prepared By SMTC



Note:  
Only actual pavement markings were drawn. An absence of arrows/stripping indicates no pavement markings.

Date June 2014

No curbs on any approach.



Task

Town of Lysander  
Comprehensive Plan Update

Data Source: SMTC, 2014.

Diagram is for presentation purposes only.  
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Diagram is not to scale

## **Attachment B**

Peak hour turning movement counts

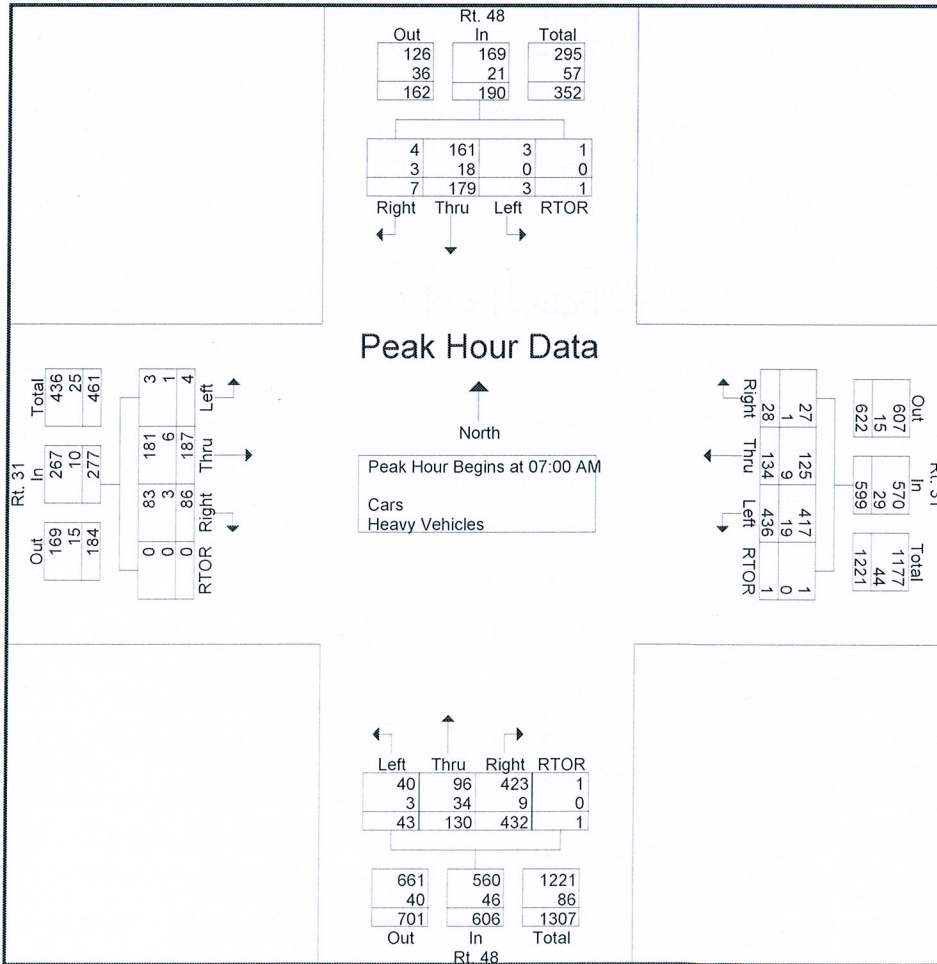
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
www.smtcmpto.org

Village of Baldwinsville  
Rt. 31 and Rt. 48  
AJM (a.m.), EH (p.m.)  
Lysander Comprehensive Plan

File Name : Rt 31\_Rt 48\_06\_19\_14\_Formatted  
Site Code : 06191405  
Start Date : 6/19/2014  
Page No : 3

| Start Time                                                 | Rt. 31 Eastbound |      |       |      |            | Rt. 31 Westbound |      |       |      |            | Rt. 48 Northbound |      |       |      |            | Rt. 48 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|------------------|------|-------|------|------------|------------------|------|-------|------|------------|-------------------|------|-------|------|------------|-------------------|------|-------|------|------------|------------|
|                                                            | Left             | Thru | Right | RTOR | App. Total | Left             | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                  |      |       |      |            |                  |      |       |      |            |                   |      |       |      |            |                   |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                  |      |       |      |            |                  |      |       |      |            |                   |      |       |      |            |                   |      |       |      |            |            |
| 07:00 AM                                                   | 2                | 50   | 21    | 0    | 73         | 97               | 26   | 6     | 1    | 130        | 10                | 36   | 90    | 1    | 137        | 1                 | 29   | 1     | 0    | 31         | 371        |
| 07:15 AM                                                   | 1                | 42   | 20    | 0    | 63         | 128              | 40   | 8     | 0    | 176        | 8                 | 41   | 110   | 0    | 159        | 1                 | 57   | 3     | 1    | 62         | 460        |
| 07:30 AM                                                   | 0                | 44   | 27    | 0    | 71         | 102              | 33   | 5     | 0    | 140        | 12                | 36   | 122   | 0    | 170        | 0                 | 51   | 0     | 0    | 51         | 432        |
| 07:45 AM                                                   | 1                | 51   | 18    | 0    | 70         | 109              | 35   | 9     | 0    | 153        | 13                | 17   | 110   | 0    | 140        | 1                 | 42   | 3     | 0    | 46         | 409        |
| Total Volume                                               | 4                | 187  | 86    | 0    | 277        | 436              | 134  | 28    | 1    | 599        | 43                | 130  | 432   | 1    | 606        | 3                 | 179  | 7     | 1    | 190        | 1672       |
| % App. Total                                               | 1.4              | 67.5 | 31    | 0    |            | 72.8             | 22.4 | 4.7   | 0.2  |            | 7.1               | 21.5 | 71.3  | 0.2  |            | 1.6               | 94.2 | 3.7   | 0.5  |            |            |
| PHF                                                        | .500             | .917 | .796  | .000 | .949       | .852             | .838 | .778  | .250 | .851       | .827              | .793 | .885  | .250 | .891       | .750              | .785 | .583  | .250 | .766       | .909       |
| Cars                                                       | 3                | 181  | 83    | 0    | 267        | 417              | 125  | 27    | 1    | 570        | 40                | 96   | 423   | 1    | 560        | 3                 | 161  | 4     | 1    | 169        | 1566       |
| % Cars                                                     | 75.0             | 96.8 | 96.5  | 0    | 96.4       | 95.6             | 93.3 | 96.4  | 100  | 95.2       | 93.0              | 73.8 | 97.9  | 100  | 92.4       | 100               | 89.9 | 57.1  | 100  | 88.9       | 93.7       |
| Heavy Vehicles                                             |                  |      |       |      |            |                  |      |       |      |            |                   |      |       |      |            |                   |      |       |      |            |            |
| % Heavy Vehicles                                           | 25.0             | 3.2  | 3.5   | 0    | 3.6        | 4.4              | 6.7  | 3.6   | 0    | 4.8        | 7.0               | 26.2 | 2.1   | 0    | 7.6        | 0                 | 10.1 | 42.9  | 0    | 11.1       | 6.3        |



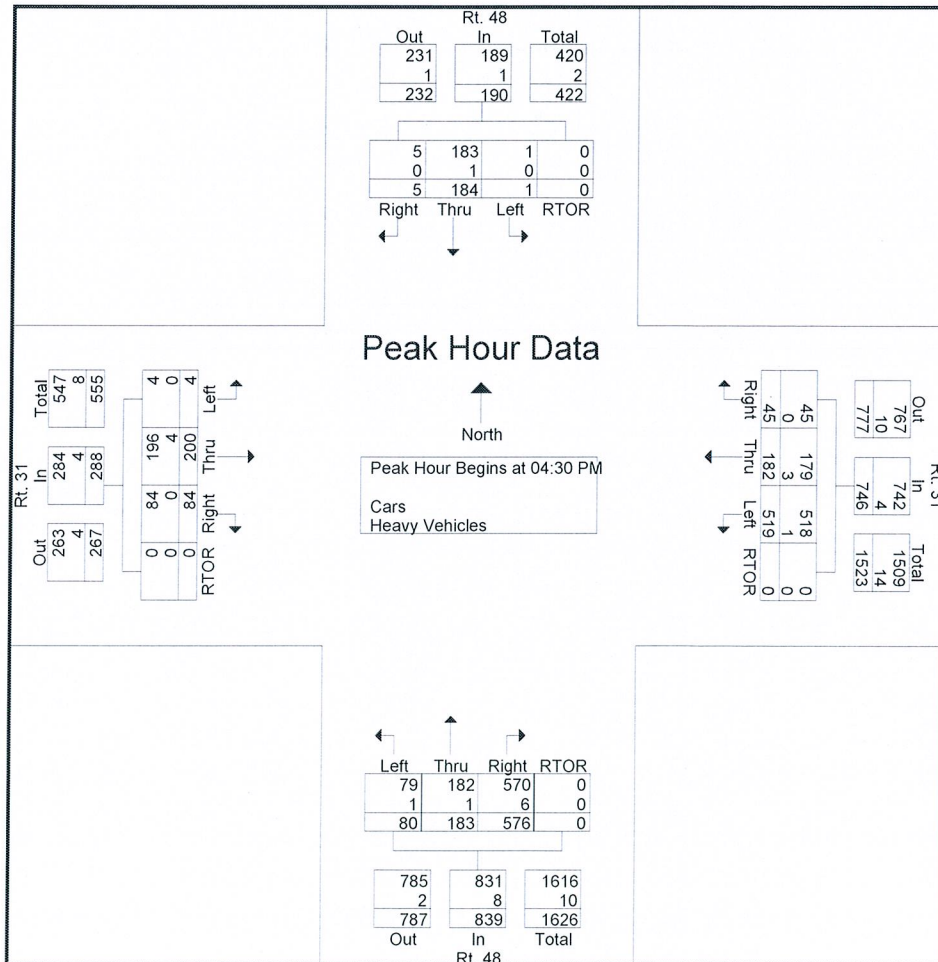
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
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Village of Baldwinsville  
Rt. 31 and Rt. 48  
AJM (a.m.), EH (p.m.)  
Lysander Comprehensive Plan

File Name : Rt 31\_Rt 48\_06\_19\_14\_Formatted  
Site Code : 06191405  
Start Date : 6/19/2014  
Page No : 4

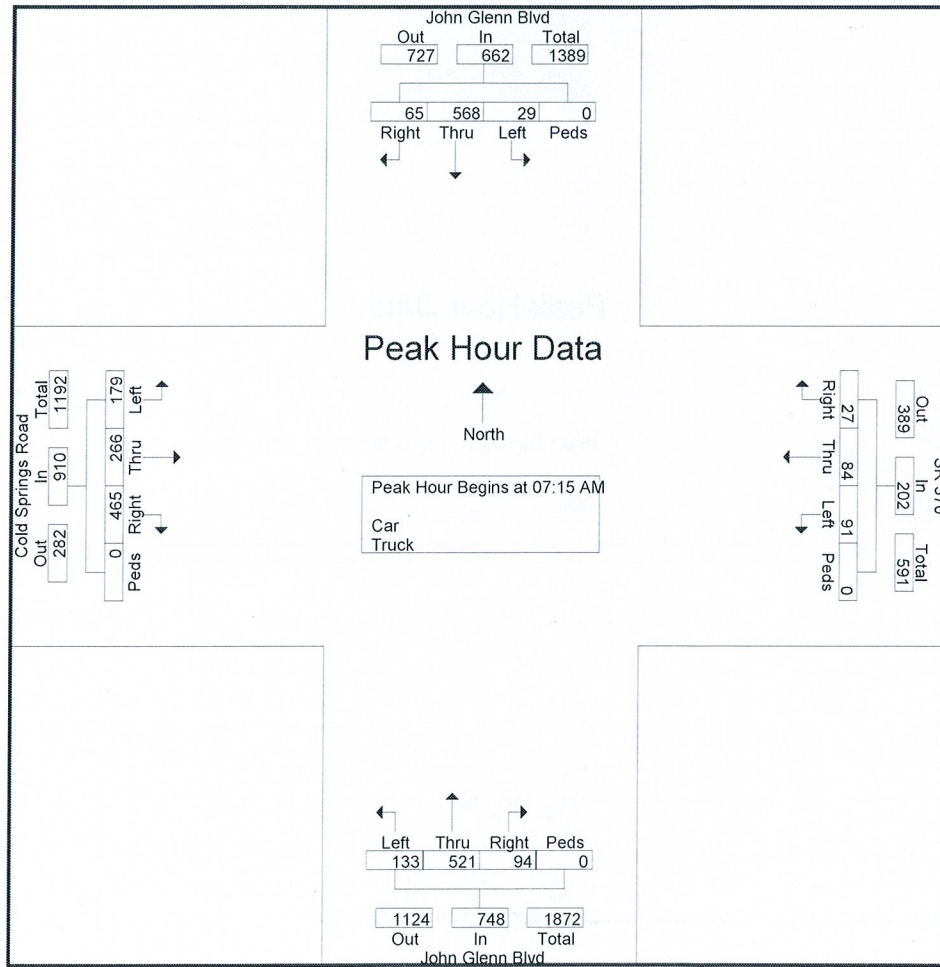
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|------------------------------------------------------------|------------------|------|-------|------|-----------|------------------|------|-------|------|-----------|-------------------|------|-------|------|-----------|-------------------|------|-------|------|-----------|------------|
|                                                            | Left             | Thru | Right | RTOR | App Total | Left             | Thru | Right | RTOR | App Total | Left              | Thru | Right | RTOR | App Total | Left              | Thru | Right | RTOR | App Total |            |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                  |      |       |      |           |                  |      |       |      |           |                   |      |       |      |           |                   |      |       |      |           |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                  |      |       |      |           |                  |      |       |      |           |                   |      |       |      |           |                   |      |       |      |           |            |
| 04:30 PM                                                   | 0                | 52   | 23    | 0    | 75        | 128              | 48   | 8     | 0    | 184       | 21                | 39   | 144   | 0    | 204       | 0                 | 47   | 1     | 0    | 48        | 511        |
| 04:45 PM                                                   | 2                | 56   | 21    | 0    | 79        | 120              | 45   | 6     | 0    | 171       | 21                | 36   | 142   | 0    | 199       | 0                 | 32   | 3     | 0    | 35        | 484        |
| 05:00 PM                                                   | 1                | 44   | 23    | 0    | 68        | 137              | 46   | 18    | 0    | 201       | 20                | 55   | 138   | 0    | 213       | 0                 | 48   | 1     | 0    | 49        | 531        |
| 05:15 PM                                                   | 1                | 48   | 17    | 0    | 66        | 134              | 43   | 13    | 0    | 190       | 18                | 53   | 152   | 0    | 223       | 1                 | 57   | 0     | 0    | 58        | 537        |
| Total Volume                                               | 4                | 200  | 84    | 0    | 288       | 519              | 182  | 45    | 0    | 746       | 80                | 183  | 576   | 0    | 839       | 1                 | 184  | 5     | 0    | 190       | 2063       |
| % App. Total                                               | 1.4              | 69.4 | 29.2  | 0    |           | 69.6             | 24.4 | 6     | 0    |           | 9.5               | 21.8 | 68.7  | 0    |           | 0.5               | 96.8 | 2.6   | 0    |           |            |
| PHF                                                        | .500             | .893 | .913  | .000 | .911      | .947             | .948 | .625  | .000 | .928      | .952              | .832 | .947  | .000 | .941      | .250              | .807 | .417  | .000 | .819      | .960       |
| Cars                                                       | 4                | 196  | 84    | 0    | 284       | 518              | 179  | 45    | 0    | 742       | 79                | 182  | 570   | 0    | 831       | 1                 | 183  | 5     | 0    | 189       | 2046       |
| % Cars                                                     | 100              | 98.0 | 100   | 0    | 98.6      | 99.8             | 98.4 | 100   | 0    | 99.5      | 98.8              | 99.5 | 99.0  | 0    | 99.0      | 100               | 99.5 | 100   | 0    | 99.5      | 99.2       |
| Heavy Vehicles                                             |                  |      |       |      |           |                  |      |       |      |           |                   |      |       |      |           |                   |      |       |      |           |            |
| % Heavy Vehicles                                           | 0                | 2.0  | 0     | 0    | 1.4       | 0.2              | 1.6  | 0     | 0    | 0.5       | 1.3               | 0.5  | 1.0   | 0    | 1.0       | 0                 | 0.5  | 0     | 0    | 0.5       | 0.8        |



New York State Department of Transportation  
 Region 3  
 333 East Washington Street  
 Syracuse, NY 13202

File Name : SR 370 at John Glenn Blvd  
 Site Code :  
 Start Date : 10/9/2012  
 Page No : 3

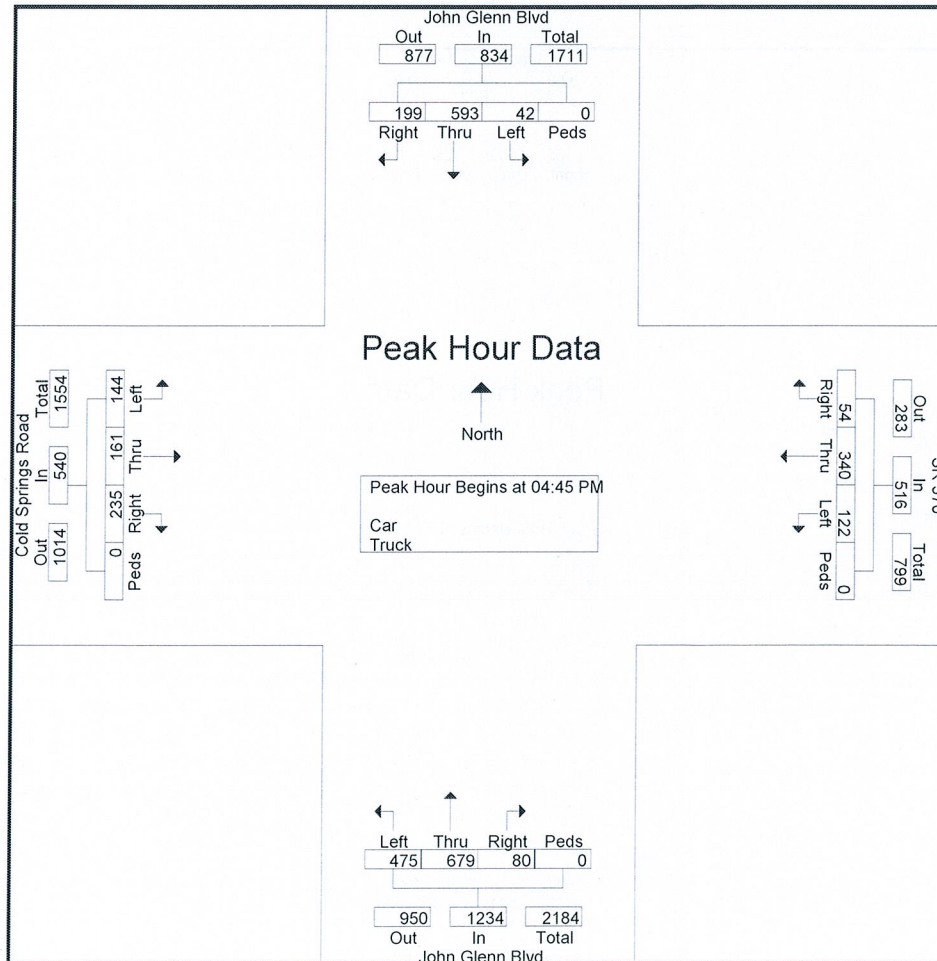
| Start Time                                                 | John Glenn Blvd From North |      |      |      |            | SR 370 From East |      |      |      |            | John Glenn Blvd From South |      |      |      |            | Cold Springs Road From West |      |      |      |            | Int. Total |
|------------------------------------------------------------|----------------------------|------|------|------|------------|------------------|------|------|------|------------|----------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
|                                                            | Right                      | Thru | Left | Peds | App. Total | Right            | Thru | Left | Peds | App. Total | Right                      | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1 |                            |      |      |      |            |                  |      |      |      |            |                            |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                            |      |      |      |            |                  |      |      |      |            |                            |      |      |      |            |                             |      |      |      |            |            |
| 07:15 AM                                                   | 13                         | 142  | 5    | 0    | 160        | 5                | 20   | 20   | 0    | 45         | 15                         | 109  | 25   | 0    | 149        | 142                         | 65   | 45   | 0    | 252        | 606        |
| 07:30 AM                                                   | 24                         | 156  | 8    | 0    | 188        | 10               | 25   | 21   | 0    | 56         | 21                         | 143  | 33   | 0    | 197        | 106                         | 88   | 44   | 0    | 238        | 679        |
| 07:45 AM                                                   | 19                         | 149  | 12   | 0    | 180        | 4                | 24   | 29   | 0    | 57         | 37                         | 175  | 42   | 0    | 254        | 107                         | 61   | 53   | 0    | 221        | 712        |
| 08:00 AM                                                   | 9                          | 121  | 4    | 0    | 134        | 8                | 15   | 21   | 0    | 44         | 21                         | 94   | 33   | 0    | 148        | 110                         | 52   | 37   | 0    | 199        | 525        |
| Total Volume                                               | 65                         | 568  | 29   | 0    | 662        | 27               | 84   | 91   | 0    | 202        | 94                         | 521  | 133  | 0    | 748        | 465                         | 266  | 179  | 0    | 910        | 2522       |
| % App. Total                                               | 9.8                        | 85.8 | 4.4  | 0    |            | 13.4             | 41.6 | 45   | 0    |            | 12.6                       | 69.7 | 17.8 | 0    |            | 51.1                        | 29.2 | 19.7 | 0    |            |            |
| PHF                                                        | .677                       | .910 | .604 | .000 | .880       | .675             | .840 | .784 | .000 | .886       | .635                       | .744 | .792 | .000 | .736       | .819                        | .756 | .844 | .000 | .903       | .886       |



New York State Department of Transportation  
 Region 3  
 333 East Washington Street  
 Syracuse, NY 13202

File Name : SR 370 at John Glenn Blvd  
 Site Code :  
 Start Date : 10/9/2012  
 Page No : 5

| Start Time                                                 | John Glenn Blvd<br>From North |      |      |      |            | SR 370<br>From East |      |      |      |            | John Glenn Blvd<br>From South |      |      |      |            | Cold Springs Road<br>From West |      |      |      |            | Int. Total |
|------------------------------------------------------------|-------------------------------|------|------|------|------------|---------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------------------|------|------|------|------------|------------|
|                                                            | Right                         | Thru | Left | Peds | App. Total | Right               | Thru | Left | Peds | App. Total | Right                         | Thru | Left | Peds | App. Total | Right                          | Thru | Left | Peds | App. Total |            |
| Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1 |                               |      |      |      |            |                     |      |      |      |            |                               |      |      |      |            |                                |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                               |      |      |      |            |                     |      |      |      |            |                               |      |      |      |            |                                |      |      |      |            |            |
| 04:45 PM                                                   | 41                            | 146  | 13   | 0    | 200        | 14                  | 90   | 29   | 0    | 133        | 26                            | 172  | 102  | 0    | 300        | 58                             | 49   | 39   | 0    | 146        | 779        |
| 05:00 PM                                                   | 58                            | 149  | 6    | 0    | 213        | 16                  | 80   | 26   | 0    | 122        | 21                            | 164  | 110  | 0    | 295        | 61                             | 42   | 35   | 0    | 138        | 768        |
| 05:15 PM                                                   | 62                            | 157  | 7    | 0    | 226        | 9                   | 77   | 30   | 0    | 116        | 17                            | 198  | 142  | 0    | 357        | 53                             | 38   | 38   | 0    | 129        | 828        |
| 05:30 PM                                                   | 38                            | 141  | 16   | 0    | 195        | 15                  | 93   | 37   | 0    | 145        | 16                            | 145  | 121  | 0    | 282        | 63                             | 32   | 32   | 0    | 127        | 749        |
| Total Volume                                               | 199                           | 593  | 42   | 0    | 834        | 54                  | 340  | 122  | 0    | 516        | 80                            | 679  | 475  | 0    | 1234       | 235                            | 161  | 144  | 0    | 540        | 3124       |
| % App. Total                                               | 23.9                          | 71.1 | 5    | 0    |            | 10.5                | 65.9 | 23.6 | 0    |            | 6.5                           | 55   | 38.5 | 0    |            | 43.5                           | 29.8 | 26.7 | 0    |            |            |
| PHF                                                        | .802                          | .944 | .656 | .000 | .923       | .844                | .914 | .824 | .000 | .890       | .769                          | .857 | .836 | .000 | .864       | .933                           | .821 | .923 | .000 | .925       | .943       |



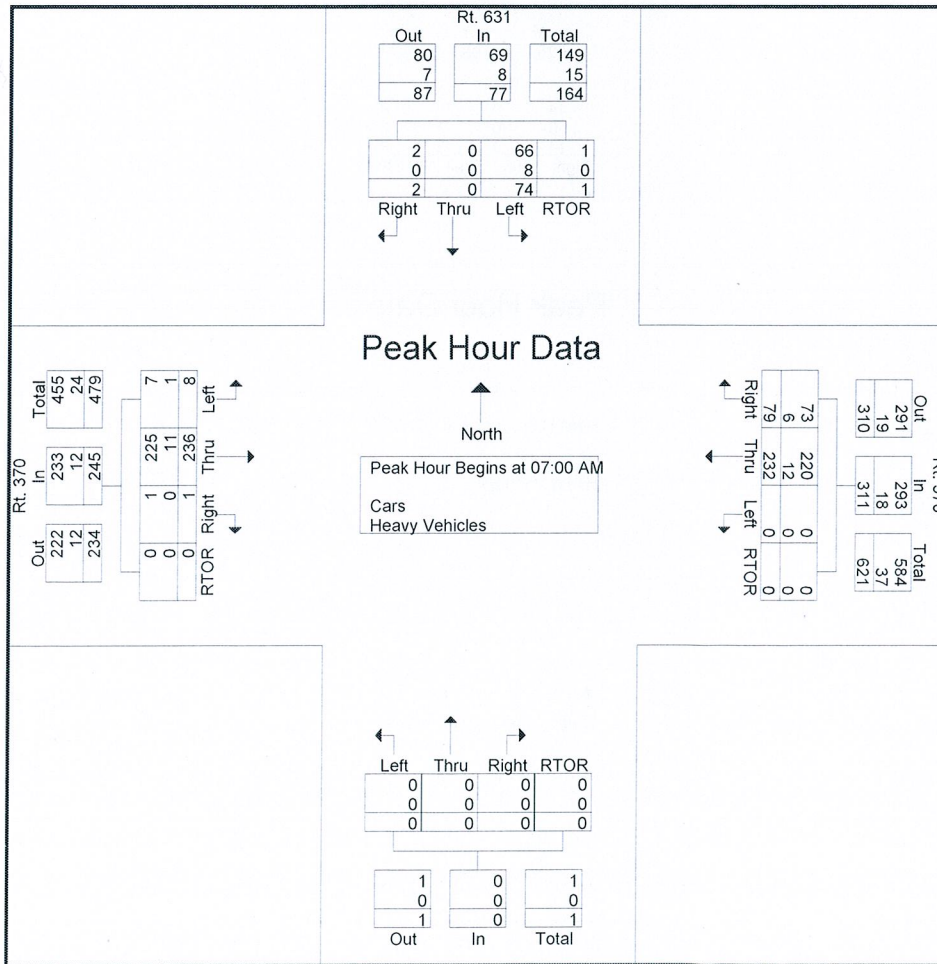
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
www.smtcmppo.org

Village of Baldwinsville  
Rt. 370 and Rt. 631  
AF  
Lysander Comprehensive Plan

File Name : Rt 370\_Rt 631\_06\_19\_14\_Merged\_AM-PM  
Site Code : 06191402  
Start Date : 6/19/2014  
Page No : 3

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 370 Westbound |      |       |      |            | Northbound |      |       |      |            | Rt. 631 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|-------------------|------|-------|------|------------|------------|------|-------|------|------------|--------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total | Left       | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| 07:00 AM                                                   | 3                 | 48   | 1     | 0    | 52         | 0                 | 63   | 16    | 0    | 79         | 0          | 0    | 0     | 0    | 0          | 21                 | 0    | 1     | 0    | 22         | 153        |
| 07:15 AM                                                   | 3                 | 60   | 0     | 0    | 63         | 0                 | 67   | 21    | 0    | 88         | 0          | 0    | 0     | 0    | 0          | 25                 | 0    | 1     | 1    | 27         | 178        |
| 07:30 AM                                                   | 1                 | 76   | 0     | 0    | 77         | 0                 | 55   | 20    | 0    | 75         | 0          | 0    | 0     | 0    | 0          | 10                 | 0    | 0     | 0    | 10         | 162        |
| 07:45 AM                                                   | 1                 | 52   | 0     | 0    | 53         | 0                 | 47   | 22    | 0    | 69         | 0          | 0    | 0     | 0    | 0          | 18                 | 0    | 0     | 0    | 18         | 140        |
| Total Volume                                               | 8                 | 236  | 1     | 0    | 245        | 0                 | 232  | 79    | 0    | 311        | 0          | 0    | 0     | 0    | 0          | 74                 | 0    | 2     | 1    | 77         | 633        |
| % App. Total                                               | 3.3               | 96.3 | 0.4   | 0    |            | 0                 | 74.6 | 25.4  | 0    |            | 0          | 0    | 0     | 0    |            | 96.1               | 0    | 2.6   | 1.3  |            |            |
| PHF                                                        | .667              | .776 | .250  | .000 | .795       | .000              | .866 | .898  | .000 | .884       | .000       | .000 | .000  | .000 | .000       | .740               | .000 | .500  | .250 | .713       | .889       |
| Cars                                                       | 7                 | 225  | 1     | 0    | 233        | 0                 | 220  | 73    | 0    | 293        | 0          | 0    | 0     | 0    | 0          | 66                 | 0    | 2     | 1    | 69         | 595        |
| % Cars                                                     | 87.5              | 95.3 | 100   | 0    | 95.1       | 0                 | 94.8 | 92.4  | 0    | 94.2       | 0          | 0    | 0     | 0    | 0          | 89.2               | 0    | 100   | 100  | 89.6       | 94.0       |
| Heavy Vehicles                                             |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| % Heavy Vehicles                                           | 12.5              | 4.7  | 0     | 0    | 4.9        | 0                 | 5.2  | 7.6   | 0    | 5.8        | 0          | 0    | 0     | 0    | 0          | 10.8               | 0    | 0     | 0    | 10.4       | 6.0        |



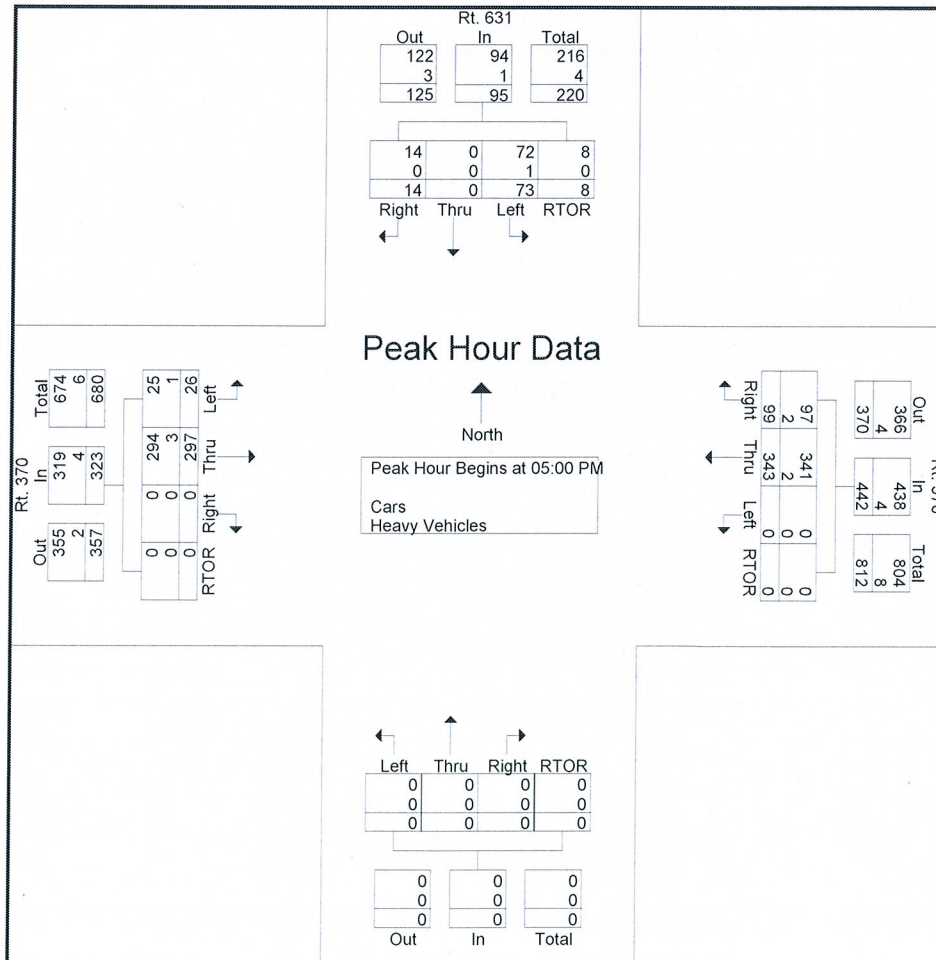
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
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Village of Baldwinsville  
Rt. 370 and Rt. 631  
AF  
Lysander Comprehensive Plan

File Name : Rt 370\_Rt 631\_06\_19\_14\_Merged\_AM-PM  
Site Code : 06191402  
Start Date : 6/19/2014  
Page No : 4

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 370 Westbound |      |       |      |            | Northbound |      |       |      |            | Rt. 631 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|-------------------|------|-------|------|------------|------------|------|-------|------|------------|--------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total | Left       | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 05:00 PM       |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| 05:00 PM                                                   | 6                 | 97   | 0     | 0    | 103        | 0                 | 72   | 19    | 0    | 91         | 0          | 0    | 0     | 0    | 0          | 19                 | 0    | 3     | 2    | 24         | 218        |
| 05:15 PM                                                   | 3                 | 61   | 0     | 0    | 64         | 0                 | 88   | 24    | 0    | 112        | 0          | 0    | 0     | 0    | 0          | 19                 | 0    | 2     | 2    | 23         | 199        |
| 05:30 PM                                                   | 5                 | 84   | 0     | 0    | 89         | 0                 | 98   | 28    | 0    | 126        | 0          | 0    | 0     | 0    | 0          | 18                 | 0    | 5     | 1    | 24         | 239        |
| 05:45 PM                                                   | 12                | 55   | 0     | 0    | 67         | 0                 | 85   | 28    | 0    | 113        | 0          | 0    | 0     | 0    | 0          | 17                 | 0    | 4     | 3    | 24         | 204        |
| Total Volume                                               | 26                | 297  | 0     | 0    | 323        | 0                 | 343  | 99    | 0    | 442        | 0          | 0    | 0     | 0    | 0          | 73                 | 0    | 14    | 8    | 95         | 860        |
| % App. Total                                               | 8                 | 92   | 0     | 0    |            | 0                 | 77.6 | 22.4  | 0    |            | 0          | 0    | 0     | 0    |            | 76.8               | 0    | 14.7  | 8.4  |            |            |
| PHF                                                        | .542              | .765 | .000  | .000 | .784       | .000              | .875 | .884  | .000 | .877       | .000       | .000 | .000  | .000 | .000       | .961               | .000 | .700  | .667 | .990       | .900       |
| Cars                                                       | 25                | 294  | 0     | 0    | 319        | 0                 | 341  | 97    | 0    | 438        | 0          | 0    | 0     | 0    | 0          | 72                 | 0    | 14    | 8    | 94         | 851        |
| % Cars                                                     | 96.2              | 99.0 | 0     | 0    | 98.8       | 0                 | 99.4 | 98.0  | 0    | 99.1       | 0          | 0    | 0     | 0    | 0          | 98.6               | 0    | 100   | 100  | 98.9       | 99.0       |
| Heavy Vehicles                                             |                   |      |       |      |            |                   |      |       |      |            |            |      |       |      |            |                    |      |       |      |            |            |
| % Heavy Vehicles                                           | 3.8               | 1.0  | 0     | 0    | 1.2        | 0                 | 0.6  | 2.0   | 0    | 0.9        | 0          | 0    | 0     | 0    | 0          | 1.4                | 0    | 0     | 0    | 1.1        | 1.0        |



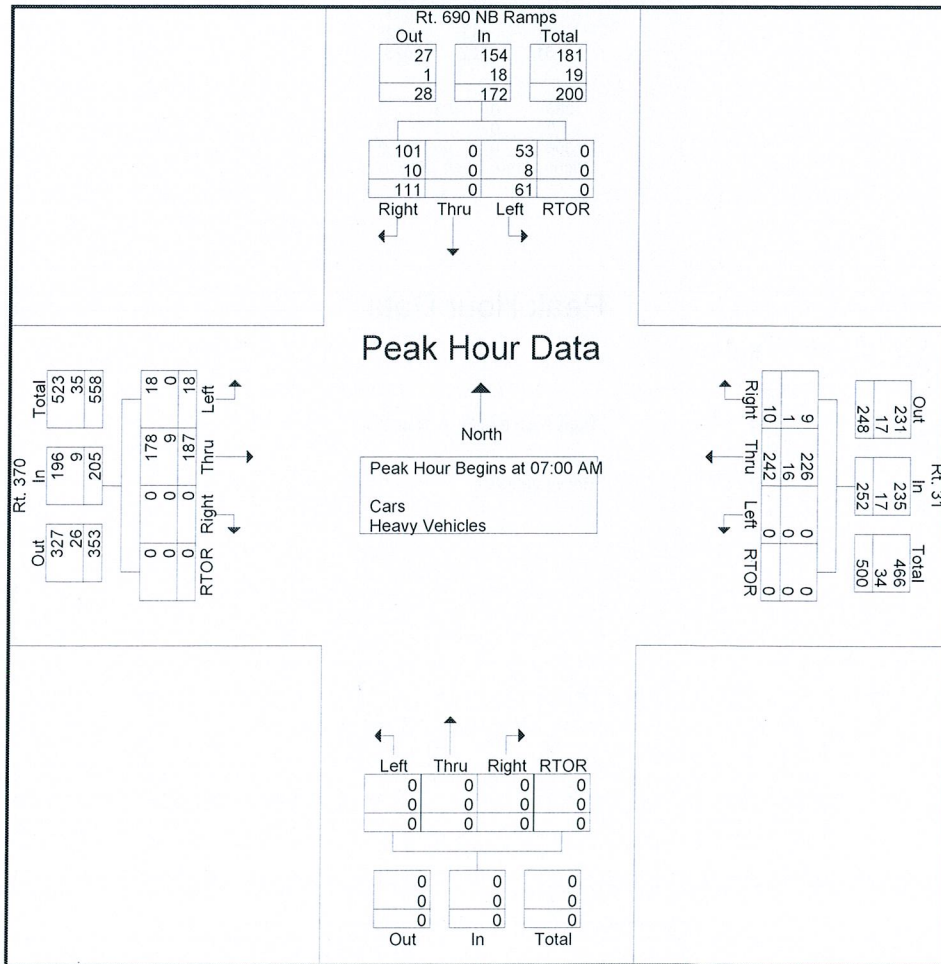
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
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Town of Lysander  
Rt. 370 & Rt. 690 NB Ramps  
DA  
Lysander Comprehensive Plan

File Name : Rt. 370\_Rt. 690NB Ramps\_06\_19\_14\_Formatted  
Site Code : 06191403  
Start Date : 6/19/2014  
Page No : 3

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 31 Westbound |      |       |      |            | Northbound |      |       |      |            | Rt. 690 NB Ramps Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|------|-------|------|------------|-----------------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left             | Thru | Right | RTOR | App. Total | Left       | Thru | Right | RTOR | App. Total | Left                        | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |
| 07:00 AM                                                   | 7                 | 48   | 0     | 0    | 55         | 0                | 53   | 1     | 0    | 54         | 0          | 0    | 0     | 0    | 0          | 13                          | 0    | 21    | 0    | 34         | 143        |
| 07:15 AM                                                   | 3                 | 51   | 0     | 0    | 54         | 0                | 89   | 3     | 0    | 92         | 0          | 0    | 0     | 0    | 0          | 18                          | 0    | 28    | 0    | 46         | 192        |
| 07:30 AM                                                   | 6                 | 49   | 0     | 0    | 55         | 0                | 46   | 3     | 0    | 49         | 0          | 0    | 0     | 0    | 0          | 11                          | 0    | 26    | 0    | 37         | 141        |
| 07:45 AM                                                   | 2                 | 39   | 0     | 0    | 41         | 0                | 54   | 3     | 0    | 57         | 0          | 0    | 0     | 0    | 0          | 19                          | 0    | 36    | 0    | 55         | 153        |
| Total Volume                                               | 18                | 187  | 0     | 0    | 205        | 0                | 242  | 10    | 0    | 252        | 0          | 0    | 0     | 0    | 0          | 61                          | 0    | 111   | 0    | 172        | 629        |
| % App. Total                                               | 8.8               | 91.2 | 0     | 0    |            | 0                | 96   | 4     | 0    |            | 0          | 0    | 0     | 0    |            | 35.5                        | 0    | 64.5  | 0    |            |            |
| PHF                                                        | .643              | .917 | .000  | .000 | .932       | .000             | .680 | .833  | .000 | .685       | .000       | .000 | .000  | .000 | .000       | .803                        | .000 | .771  | .000 | .782       | .819       |
| Cars                                                       | 18                | 178  | 0     | 0    | 196        | 0                | 226  | 9     | 0    | 235        | 0          | 0    | 0     | 0    | 0          | 53                          | 0    | 101   | 0    | 154        | 585        |
| % Cars                                                     | 100               | 95.2 | 0     | 0    | 95.6       | 0                | 93.4 | 90.0  | 0    | 93.3       | 0          | 0    | 0     | 0    | 0          | 86.9                        | 0    | 91.0  | 0    | 89.5       | 93.0       |
| Heavy Vehicles                                             | 0                 | 4.8  | 0     | 0    | 4.4        | 0                | 6.6  | 10.0  | 0    | 6.7        | 0          | 0    | 0     | 0    | 0          | 13.1                        | 0    | 9.0   | 0    | 10.5       | 7.0        |
| % Heavy Vehicles                                           |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |



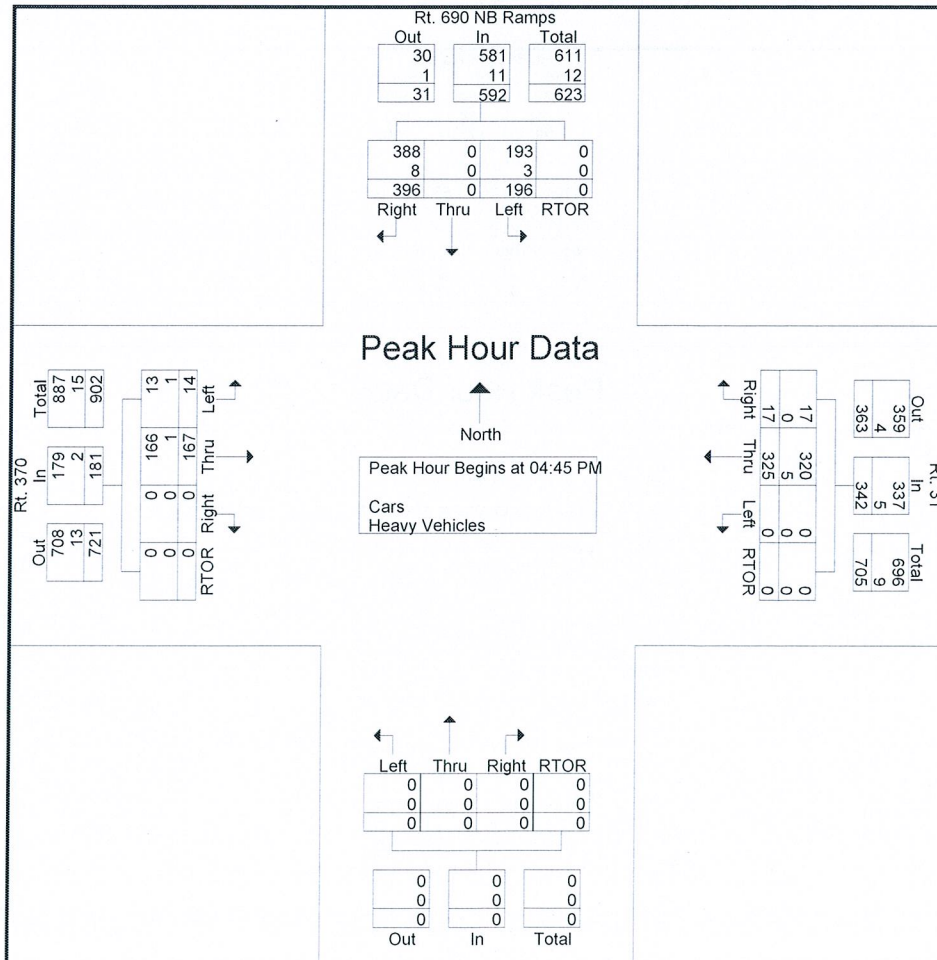
# Syracuse Metropolitan Transportation Council

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Town of Lysander  
Rt. 370 & Rt. 690 NB Ramps  
DA  
Lysander Comprehensive Plan

File Name : Rt. 370\_Rt. 690NB Ramps\_06\_19\_14\_Formatted  
Site Code : 06191403  
Start Date : 6/19/2014  
Page No : 4

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 31 Westbound |      |       |      |            | Northbound |      |       |      |            | Rt. 690 NB Ramps Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|------|-------|------|------------|-----------------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left             | Thru | Right | RTOR | App. Total | Left       | Thru | Right | RTOR | App. Total | Left                        | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |
| 04:45 PM                                                   | 3                 | 56   | 0     | 0    | 59         | 0                | 77   | 6     | 0    | 83         | 0          | 0    | 0     | 0    | 0          | 49                          | 0    | 95    | 0    | 144        | 286        |
| 05:00 PM                                                   | 5                 | 44   | 0     | 0    | 49         | 0                | 76   | 3     | 0    | 79         | 0          | 0    | 0     | 0    | 0          | 46                          | 0    | 82    | 0    | 128        | 256        |
| 05:15 PM                                                   | 6                 | 36   | 0     | 0    | 42         | 0                | 87   | 5     | 0    | 92         | 0          | 0    | 0     | 0    | 0          | 41                          | 0    | 101   | 0    | 142        | 276        |
| 05:30 PM                                                   | 0                 | 31   | 0     | 0    | 31         | 0                | 85   | 3     | 0    | 88         | 0          | 0    | 0     | 0    | 0          | 60                          | 0    | 118   | 0    | 178        | 297        |
| Total Volume                                               | 14                | 167  | 0     | 0    | 181        | 0                | 325  | 17    | 0    | 342        | 0          | 0    | 0     | 0    | 0          | 196                         | 0    | 396   | 0    | 592        | 1115       |
| % App. Total                                               | 7.7               | 92.3 | 0     | 0    |            | 0                | 95   | 5     | 0    |            | 0          | 0    | 0     | 0    |            | 33.1                        | 0    | 66.9  | 0    |            |            |
| PHF                                                        | .583              | .746 | .000  | .000 | .767       | .000             | .934 | .708  | .000 | .929       | .000       | .000 | .000  | .000 | .000       | .817                        | .000 | .839  | .000 | .831       | .939       |
| Cars                                                       | 13                | 166  | 0     | 0    | 179        | 0                | 320  | 17    | 0    | 337        | 0          | 0    | 0     | 0    | 0          | 193                         | 0    | 388   | 0    | 581        | 1097       |
| % Cars                                                     | 92.9              | 99.4 | 0     | 0    | 98.9       | 0                | 98.5 | 100   | 0    | 98.5       | 0          | 0    | 0     | 0    | 0          | 98.5                        | 0    | 98.0  | 0    | 98.1       | 98.4       |
| Heavy Vehicles                                             |                   |      |       |      |            |                  |      |       |      |            |            |      |       |      |            |                             |      |       |      |            |            |
| % Heavy Vehicles                                           | 7.1               | 0.6  | 0     | 0    | 1.1        | 0                | 1.5  | 0     | 0    | 1.5        | 0          | 0    | 0     | 0    | 0          | 1.5                         | 0    | 2.0   | 0    | 1.9        | 1.6        |



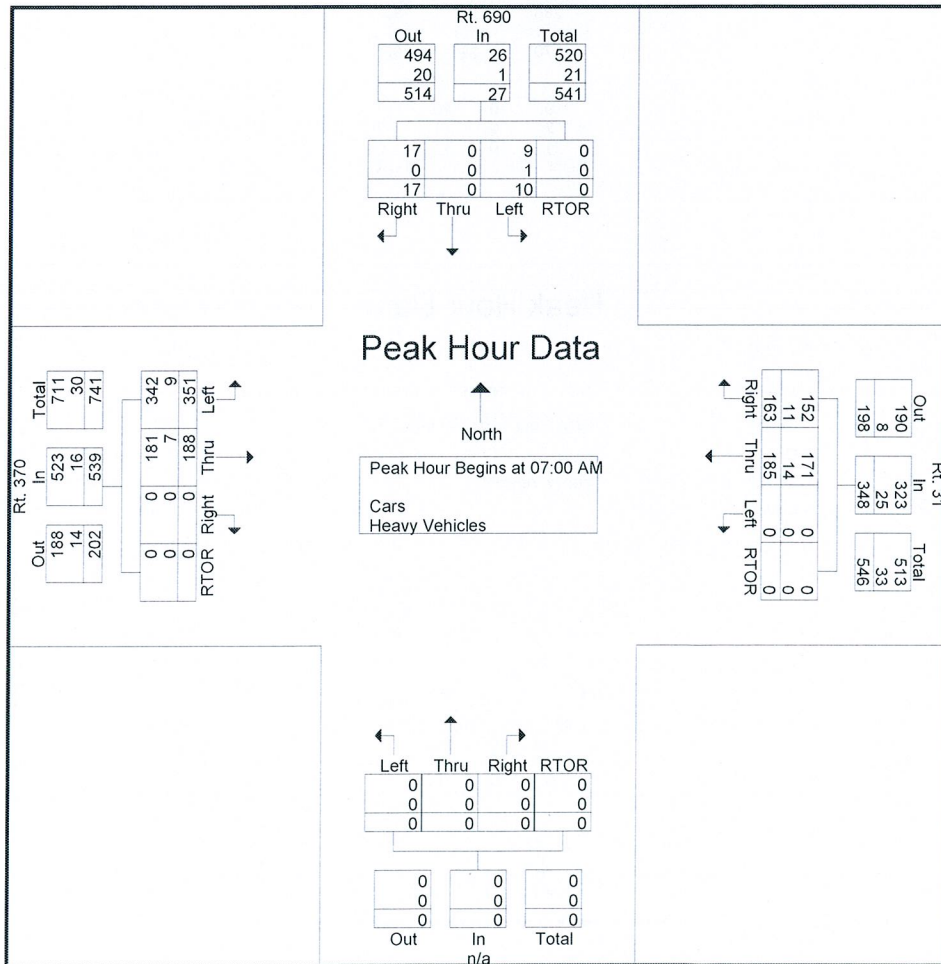
# Syracuse Metropolitan Transportation Council

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Syracuse, NY, 13202  
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Town of Lysander  
Rt. 690 SB Ramps & Rt. 370  
KB  
Lysander Comprehensive Plan

File Name : 690SB\_370\_06\_19\_14\_Formatted  
Site Code : 06191404  
Start Date : 6/19/2014  
Page No : 3

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 31 Westbound |      |       |      |            | n/a Northbound |      |       |      |            | Rt. 690 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|------------------|------|-------|------|------------|----------------|------|-------|------|------------|--------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left             | Thru | Right | RTOR | App. Total | Left           | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |
| 07:00 AM                                                   | 84                | 47   | 0     | 0    | 131        | 0                | 40   | 40    | 0    | 80         | 0              | 0    | 0     | 0    | 0          | 3                  | 0    | 6     | 0    | 9          | 220        |
| 07:15 AM                                                   | 111               | 50   | 0     | 0    | 161        | 0                | 59   | 51    | 0    | 110        | 0              | 0    | 0     | 0    | 0          | 2                  | 0    | 7     | 0    | 9          | 280        |
| 07:30 AM                                                   | 85                | 47   | 0     | 0    | 132        | 0                | 35   | 36    | 0    | 71         | 0              | 0    | 0     | 0    | 0          | 5                  | 0    | 1     | 0    | 6          | 209        |
| 07:45 AM                                                   | 71                | 44   | 0     | 0    | 115        | 0                | 51   | 36    | 0    | 87         | 0              | 0    | 0     | 0    | 0          | 0                  | 0    | 3     | 0    | 3          | 205        |
| Total Volume                                               | 351               | 188  | 0     | 0    | 539        | 0                | 185  | 163   | 0    | 348        | 0              | 0    | 0     | 0    | 0          | 10                 | 0    | 17    | 0    | 27         | 914        |
| % App. Total                                               | 65.1              | 34.9 | 0     | 0    |            | 0                | 53.2 | 46.8  | 0    |            | 0              | 0    | 0     | 0    |            | 37                 | 0    | 63    | 0    |            |            |
| PHF                                                        | .791              | .940 | .000  | .000 | .837       | .000             | .784 | .799  | .000 | .791       | .000           | .000 | .000  | .000 | .000       | .500               | .000 | .607  | .000 | .750       | .816       |
| Cars                                                       | 342               | 181  | 0     | 0    | 523        | 0                | 171  | 152   | 0    | 323        | 0              | 0    | 0     | 0    | 0          | 9                  | 0    | 17    | 0    | 26         | 872        |
| % Cars                                                     | 97.4              | 96.3 | 0     | 0    | 97.0       | 0                | 92.4 | 93.3  | 0    | 92.8       | 0              | 0    | 0     | 0    | 0          | 90.0               | 0    | 100   | 0    | 96.3       | 95.4       |
| Heavy Vehicles                                             | 2.6               | 3.7  | 0     | 0    | 3.0        | 0                | 7.6  | 6.7   | 0    | 7.2        | 0              | 0    | 0     | 0    | 0          | 10.0               | 0    | 0     | 0    | 3.7        | 4.6        |
| % Heavy Vehicles                                           |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |



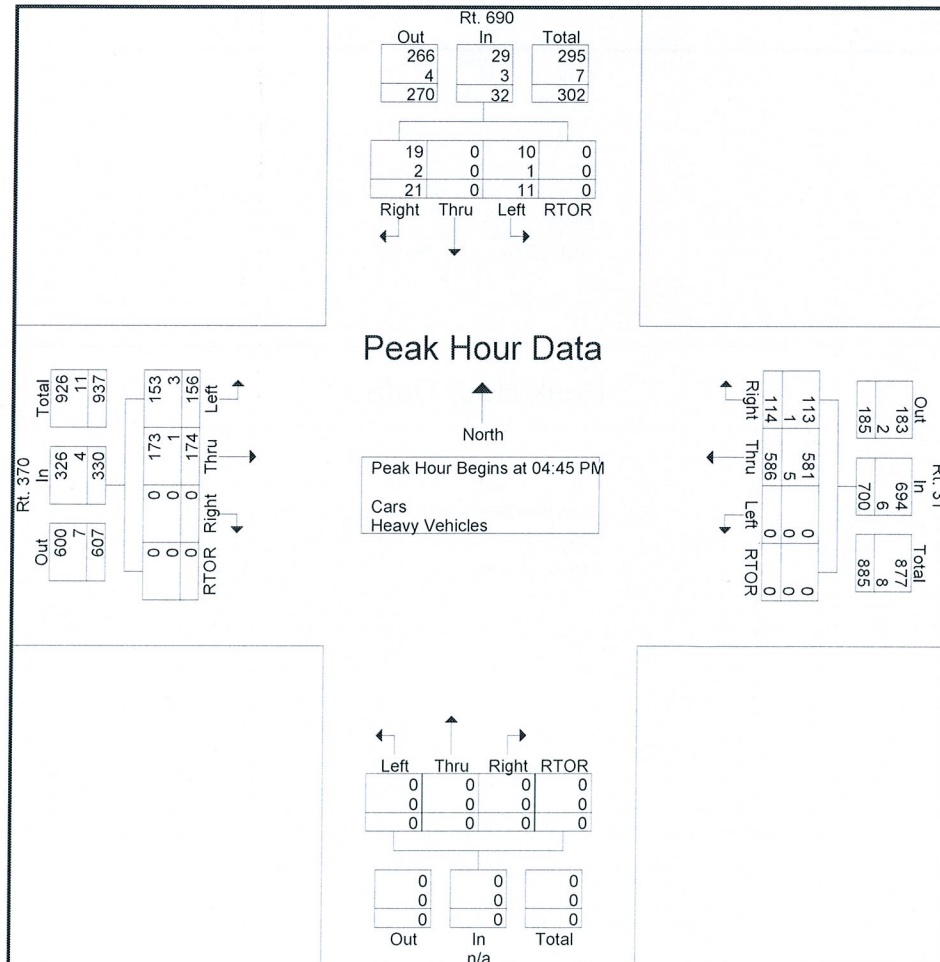
# Syracuse Metropolitan Transportation Council

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Syracuse, NY, 13202  
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Town of Lysander  
Rt. 690 SB Ramps & Rt. 370  
KB  
Lysander Comprehensive Plan

File Name : 690SB\_370\_06\_19\_14\_Formatted  
Site Code : 06191404  
Start Date : 6/19/2014  
Page No : 4

| Start Time                                                 | Rt. 370 Eastbound |      |       |      |            | Rt. 31 Westbound |      |       |      |            | n/a Northbound |      |       |      |            | Rt. 690 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|-------------------|------|-------|------|------------|------------------|------|-------|------|------------|----------------|------|-------|------|------------|--------------------|------|-------|------|------------|------------|
|                                                            | Left              | Thru | Right | RTOR | App. Total | Left             | Thru | Right | RTOR | App. Total | Left           | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |
| 04:45 PM                                                   | 34                | 53   | 0     | 0    | 87         | 0                | 139  | 29    | 0    | 168        | 0              | 0    | 0     | 0    | 0          | 4                  | 0    | 5     | 0    | 9          | 264        |
| 05:00 PM                                                   | 39                | 45   | 0     | 0    | 84         | 0                | 128  | 26    | 0    | 154        | 0              | 0    | 0     | 0    | 0          | 1                  | 0    | 6     | 0    | 7          | 245        |
| 05:15 PM                                                   | 40                | 46   | 0     | 0    | 86         | 0                | 151  | 29    | 0    | 180        | 0              | 0    | 0     | 0    | 0          | 2                  | 0    | 5     | 0    | 7          | 273        |
| 05:30 PM                                                   | 43                | 30   | 0     | 0    | 73         | 0                | 168  | 30    | 0    | 198        | 0              | 0    | 0     | 0    | 0          | 4                  | 0    | 5     | 0    | 9          | 280        |
| Total Volume                                               | 156               | 174  | 0     | 0    | 330        | 0                | 586  | 114   | 0    | 700        | 0              | 0    | 0     | 0    | 0          | 11                 | 0    | 21    | 0    | 32         | 1062       |
| % App. Total                                               | 47.3              | 52.7 | 0     | 0    |            | 0                | 83.7 | 16.3  | 0    |            | 0              | 0    | 0     | 0    |            | 34.4               | 0    | 65.6  | 0    |            |            |
| PHF                                                        | .907              | .821 | .000  | .000 | .948       | .000             | .872 | .950  | .000 | .884       | .000           | .000 | .000  | .000 | .000       | .688               | .000 | .875  | .000 | .889       | .948       |
| Cars                                                       | 153               | 173  | 0     | 0    | 326        | 0                | 581  | 113   | 0    | 694        | 0              | 0    | 0     | 0    | 0          | 10                 | 0    | 19    | 0    | 29         | 1049       |
| % Cars                                                     | 98.1              | 99.4 | 0     | 0    | 98.8       | 0                | 99.1 | 99.1  | 0    | 99.1       | 0              | 0    | 0     | 0    | 0          | 90.9               | 0    | 90.5  | 0    | 90.6       | 98.8       |
| Heavy Vehicles                                             |                   |      |       |      |            |                  |      |       |      |            |                |      |       |      |            |                    |      |       |      |            |            |
| % Heavy Vehicles                                           | 1.9               | 0.6  | 0     | 0    | 1.2        | 0                | 0.9  | 0.9   | 0    | 0.9        | 0              | 0    | 0     | 0    | 0          | 9.1                | 0    | 9.5   | 0    | 9.4        | 1.2        |



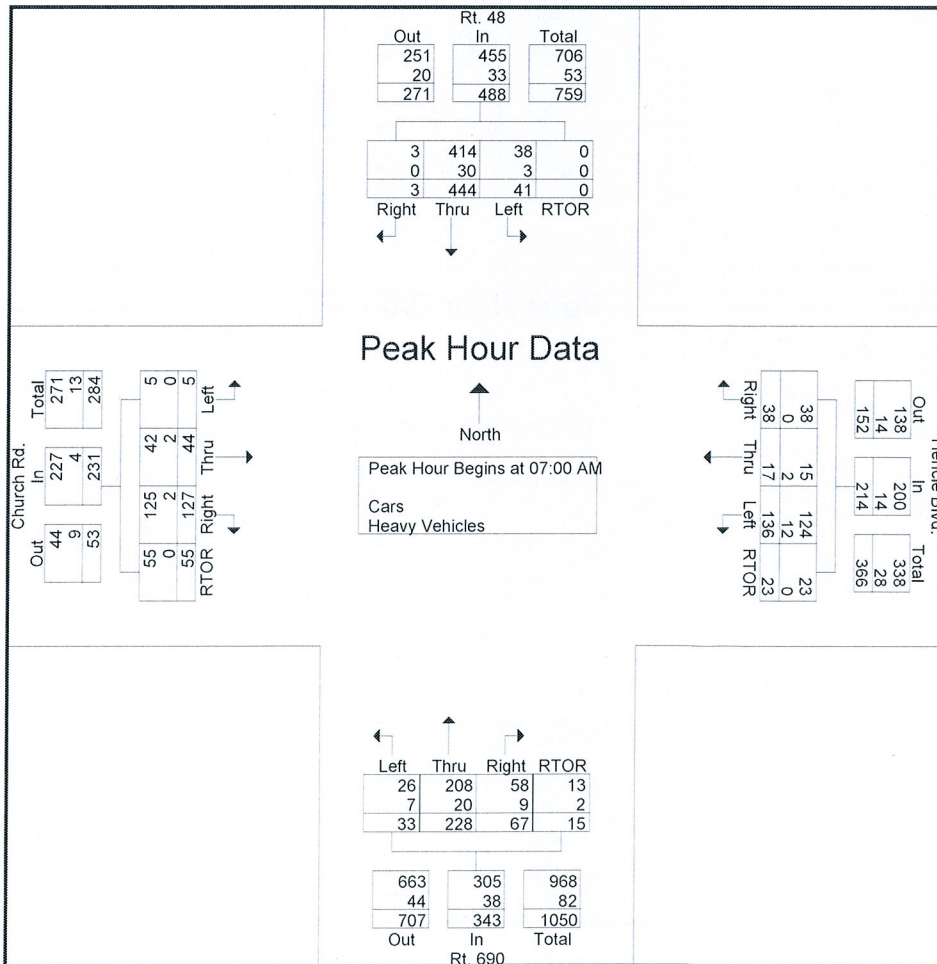
# Syracuse Metropolitan Transportation Council

126 N. Salina Street  
Syracuse, NY, 13202  
www.smtcmpto.org

Town of Lysander  
Rt. 690/Rt. 48 & Hencle Blvd./Church Rd.  
KK  
Lysander Comprehensive Plan

File Name : Rt 690\_Rt 48\_Church\_Hencle\_06\_19\_14\_Formatted  
Site Code : 06191401  
Start Date : 6/19/2014  
Page No : 3

| Start Time                                                 | Church Rd. Eastbound |      |       |      |            | Hencle Blvd. Westbound |      |       |      |            | Rt. 690 Northbound |      |       |      |            | Rt. 48 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|--------------------|------|-------|------|------------|-------------------|------|-------|------|------------|------------|
|                                                            | Left                 | Thru | Right | RTOR | App. Total | Left                   | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| 07:00 AM                                                   | 2                    | 13   | 36    | 16   | 67         | 28                     | 3    | 6     | 3    | 40         | 7                  | 57   | 10    | 3    | 77         | 10                | 114  | 0     | 0    | 124        | 308        |
| 07:15 AM                                                   | 0                    | 14   | 41    | 16   | 71         | 40                     | 6    | 14    | 9    | 69         | 9                  | 56   | 9     | 3    | 77         | 12                | 112  | 1     | 0    | 125        | 342        |
| 07:30 AM                                                   | 0                    | 6    | 26    | 12   | 44         | 42                     | 2    | 9     | 7    | 60         | 9                  | 68   | 19    | 7    | 103        | 9                 | 125  | 1     | 0    | 135        | 342        |
| 07:45 AM                                                   | 3                    | 11   | 24    | 11   | 49         | 26                     | 6    | 9     | 4    | 45         | 8                  | 47   | 29    | 2    | 86         | 10                | 93   | 1     | 0    | 104        | 284        |
| Total Volume                                               | 5                    | 44   | 127   | 55   | 231        | 136                    | 17   | 38    | 23   | 214        | 33                 | 228  | 67    | 15   | 343        | 41                | 444  | 3     | 0    | 488        | 1276       |
| % App. Total                                               | 2.2                  | 19   | 55    | 23.8 |            | 63.6                   | 7.9  | 17.8  | 10.7 |            | 9.6                | 66.5 | 19.5  | 4.4  |            | 8.4               | 91   | 0.6   | 0    |            |            |
| PHF                                                        | .417                 | .786 | .774  | .859 | .813       | .810                   | .708 | .679  | .639 | .775       | .917               | .838 | .578  | .536 | .833       | .854              | .888 | .750  | .000 | .904       | .933       |
| Cars                                                       | 5                    | 42   | 125   | 55   | 227        | 124                    | 15   | 38    | 23   | 200        | 26                 | 208  | 58    | 13   | 305        | 38                | 414  | 3     | 0    | 455        | 1187       |
| % Cars                                                     | 100                  | 95.5 | 98.4  | 100  | 98.3       | 91.2                   | 88.2 | 100   | 100  | 93.5       | 78.8               | 91.2 | 86.6  | 86.7 | 88.9       | 92.7              | 93.2 | 100   | 0    | 93.2       | 93.0       |
| Heavy Vehicles                                             |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| % Heavy Vehicles                                           | 0                    | 4.5  | 1.6   | 0    | 1.7        | 8.8                    | 11.8 | 0     | 0    | 6.5        | 21.2               | 8.8  | 13.4  | 13.3 | 11.1       | 7.3               | 6.8  | 0     | 0    | 6.8        | 7.0        |



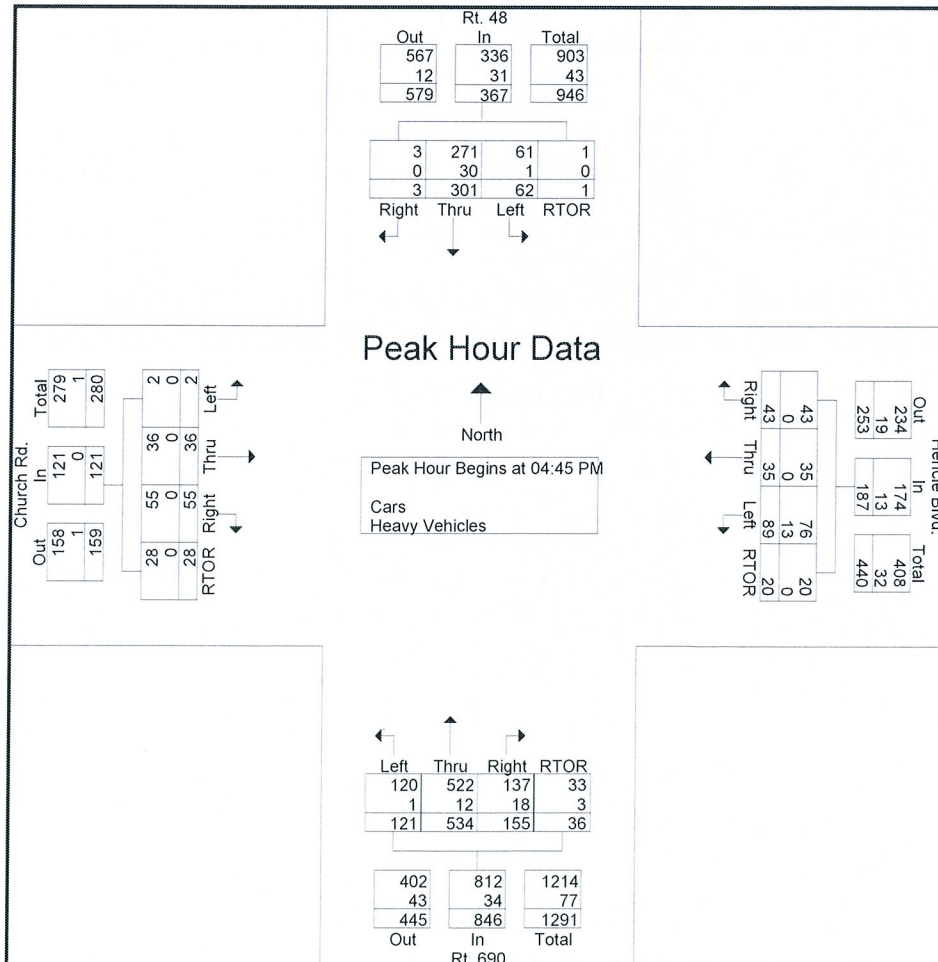
# Syracuse Metropolitan Transportation Council

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Town of Lysander  
Rt. 690/Rt. 48 & Hencle Blvd./Church Rd.  
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Lysander Comprehensive Plan

File Name : Rt 690\_Rt 48\_Church\_Hencle\_06\_19\_14\_Formatted  
Site Code : 06191401  
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| Start Time                                                 | Church Rd. Eastbound |      |       |      |            | Hencle Blvd. Westbound |      |       |      |            | Rt. 690 Northbound |      |       |      |            | Rt. 48 Southbound |      |       |      |            | Int. Total |
|------------------------------------------------------------|----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|--------------------|------|-------|------|------------|-------------------|------|-------|------|------------|------------|
|                                                            | Left                 | Thru | Right | RTOR | App. Total | Left                   | Thru | Right | RTOR | App. Total | Left               | Thru | Right | RTOR | App. Total | Left              | Thru | Right | RTOR | App. Total |            |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| 04:45 PM                                                   | 0                    | 8    | 6     | 3    | 17         | 21                     | 8    | 15    | 5    | 49         | 31                 | 159  | 25    | 7    | 222        | 18                | 84   | 1     | 0    | 103        | 391        |
| 05:00 PM                                                   | 0                    | 9    | 16    | 8    | 33         | 23                     | 14   | 9     | 5    | 51         | 24                 | 127  | 41    | 10   | 202        | 14                | 71   | 0     | 0    | 85         | 371        |
| 05:15 PM                                                   | 1                    | 8    | 14    | 4    | 27         | 24                     | 8    | 11    | 6    | 49         | 40                 | 133  | 48    | 10   | 231        | 12                | 78   | 0     | 0    | 90         | 397        |
| 05:30 PM                                                   | 1                    | 11   | 19    | 13   | 44         | 21                     | 5    | 8     | 4    | 38         | 26                 | 115  | 41    | 9    | 191        | 18                | 68   | 2     | 1    | 89         | 362        |
| Total Volume                                               | 2                    | 36   | 55    | 28   | 121        | 89                     | 35   | 43    | 20   | 187        | 121                | 534  | 155   | 36   | 846        | 62                | 301  | 3     | 1    | 367        | 1521       |
| % App. Total                                               | 1.7                  | 29.8 | 45.5  | 23.1 |            | 47.6                   | 18.7 | 23    | 10.7 |            | 14.3               | 63.1 | 18.3  | 4.3  |            | 16.9              | 82   | 0.8   | 0.3  |            |            |
| PHF                                                        | .500                 | .818 | .724  | .538 | .688       | .927                   | .625 | .717  | .833 | .917       | .756               | .840 | .807  | .900 | .916       | .861              | .896 | .375  | .250 | .891       | .958       |
| Cars                                                       | 2                    | 36   | 55    | 28   | 121        | 76                     | 35   | 43    | 20   | 174        | 120                | 522  | 137   | 33   | 812        | 61                | 271  | 3     | 1    | 336        | 1443       |
| % Cars                                                     | 100                  | 100  | 100   | 100  | 100        | 85.4                   | 100  | 100   | 100  | 93.0       | 99.2               | 97.8 | 88.4  | 91.7 | 96.0       | 98.4              | 90.0 | 100   | 100  | 91.6       | 94.9       |
| Heavy Vehicles                                             |                      |      |       |      |            |                        |      |       |      |            |                    |      |       |      |            |                   |      |       |      |            |            |
| % Heavy Vehicles                                           | 0                    | 0    | 0     | 0    | 0          | 14.6                   | 0    | 0     | 0    | 7.0        | 0.8                | 2.2  | 11.6  | 8.3  | 4.0        | 1.6               | 10.0 | 0     | 0    | 8.4        | 5.1        |



# Memorandum

**TO:** Town of Lysander Comprehensive Plan Update Committee

**FROM:** Meghan Vitale, SMTC

**DATE:** January 7, 2015

**RE:** Accident data analysis (Technical Memorandum #2)

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The SMTC has examined data from the NYSDOT’s Accident Location Identification System (ALIS) database for locations within the Town of Lysander for the most recent three-year period available (December 1, 2010, to November 30, 2013). The findings of this analysis are summarized below.

Intersection accidents

The ALIS database was queried to identify the intersections with the greatest number of total accidents over the most recent three-year period available. All intersections within the Town of Lysander plus the Route 370/John Glenn Boulevard intersection in the Town of Salina were included in this query. The analysis classified “intersection” events as those that occurred within 10 meters (32.8 feet) of the center of an intersection. Table 1 lists the five locations with the greatest number of total accidents.

**Table 1: Intersection accident summary (top 5 locations by total accidents),
December 1, 2010, to November 30, 2013**

Intersection	Location	Total accidents	Motor vehicles only	With bicycles	With pedestrians	Other collisions*
Route 370/John Glenn Blvd	Salina	40	36	0	0	4
Route 370/Route 48	Lysander	24	20	0	0	4
Route 31/Albert Palmer Ln/Lock St	Lysander	20	17	0	1	2
Route 31/River Rd	Lysander	14	13	0	0	1
Route 370/Hicks Rd/Hayes Rd	Lysander	12	12	0	0	0

*Other collisions may include, for example, collisions with fixed object (such as a sign post), animal, or ditch.
Source: NYSDOT ALIS database

The Route 370/John Glenn Boulevard intersection had the greatest number of total accidents over the three-year period examined, with a total of 40 accidents. The NYSDOT has investigated this location and recommended the installation of an exclusive eastbound right-turn lane on Route 370 and a second northbound left-turn lane on John Glenn Boulevard (with receiving lane on Route 370 westbound). This safety improvement project is currently included in the SMTC’s Transportation Improvement Program to start the scoping phase in Federal Fiscal Year 2014.

Within the Town of Lysander, the Route 31/Route 48 intersection and the Route 31/Albert Palmer Lane/Lock Street intersections had the highest number of accidents, with totals of 24 accidents and 20 accidents, respectively. In all cases, the majority of accidents were multiple-vehicle collisions.

Recent turning movement counts are available at Route 370/Route 48, Route 31/River Road, and Route 370/Hicks Road/Hayes Road (see Technical Memorandum #1). No traffic count data are available for the Route 31/Albert Palmer Lane/Lock Street intersection. Accident rates were calculated for the three intersections with turning movement count data. The accident rate calculations assumed that the PM peak hour volume entering the intersection from the turning movement counts represents 10 percent of the total Average Daily Entering Vehicles at that intersection. Accident rates for each of these intersections and a comparison to the statewide average rate for similar intersection types are summarized in Table 2.

Table 2: Accident rates for selected intersections

Intersection	Total accidents¹	Total PM peak hour entering vehicles²	Average Daily Entering Vehicles	Accident rate (accidents per million entering vehicles)	Statewide average accident rate³
Route 370/Route 48	24	2,060	20,600	1.06	0.21
Route 31/River Rd	14	2,460	24,600	0.52	0.21
Route 370/Hicks Rd/Hayes Rd	12	1,010	10,100	1.09	0.26

¹Source: NYSDOT ALIS database

²Source: SMTC, 2014; GTS Consulting, 2012

³Source: NYSDOT

As shown in Table 2, the calculated accident rates at the Route 370/Route 48, Route 31/River Road, and Route 370/Hicks Road/Hayes Road intersections all exceed the published statewide average rate for similar type intersections.

ALIS identifies the collision type for multiple vehicle collisions. Collision types include, for example, head-on, rear-end, right-angle, overtaking, left-turn, right-turn, etc. Rear-end collisions were the most common collision type for all locations listed in Table 1 except the Route 370/Hicks Road/Hayes Road intersection (right-angle collisions were the most common type at

that location). At the Route 31/River Road intersection, 11 of the 13 total multiple-vehicle collisions were rear-end collisions.

There were no fatalities at intersections within the town during the time period examined.

Non-intersection accidents

The ALIS database was queried to identify the road segments with the highest accident rates (accidents per million vehicle miles traveled) over the most recent three-year period available. The accident rates were determined using the Average Annual Daily Traffic volumes (AADT) available from the SMTC’s travel demand model. Segments less than 0.1 mile in length and segments with three or fewer total accidents over the three-year period examined were eliminated from this analysis. Table 3 lists the five road segments in the Town of Lysander with the highest accident rates over the period from December 1, 2010, to November 30, 2013.

**Table 3: Road segment accident summary (top 5 segments by accident rate),
December 1, 2010, to November 30, 2013**

Road segment	Total non-intersection accidents¹	Length (mi.)	Average Annual Daily Traffic (vehicles per day)²	Accident rate (accidents per million vehicle miles traveled)	Statewide average accident rate³
River Rd. from Doyle Rd. to Patchett Rd.	17	1.23	650	19.55	2.25
Smokey Hollow Rd. from Hencle Blvd. to 0.5 mi. north of Hencle Blvd.	5	0.51	550	16.28	2.24
Church Rd., from Prine Rd. to Wheaton Rd.	6	0.81	510	13.19	2.24
Lamson Rd. from Plainville Rd. to Prine Rd.	9	1.42	510	11.46	2.24
Route 370/Route 31 from Oswego St. to Virginia St.	27	0.14	17,070	10.32	2.48

¹Source: NYSDOT ALIS database

²Source: SMTC travel demand model

³Source: NYSDOT

For all of the segments listed in Table 3, the majority of accidents on each segment were classified as property damage only or “non-reportable” (meaning property damage of less than \$1,000, with no injuries or fatalities). There were no fatalities on these segments.

Notably, only 2 of the 17 collisions on the River Road segment were collisions with another motor vehicle; the remaining 15 incidents consisted of collisions with deer or roadside elements such as a ditch, utility pole, tree, or other fixed object and the majority of these occurred under dark (night/early morning) conditions.

Of the 27 collisions that occurred on Route 370/Route 31 (East Genesee Street) between Route 48 and Virginia Street in the Village of Baldwinsville, 21 were collisions with other motor vehicles, one was a collision with a bicyclist, and five were collisions with roadside objects. The collisions with other motor vehicles were mostly rear-end or right-angle collisions.

SMTC also queried the ALIS database for road segments with the greatest total number of accidents over the three-year period (as opposed to the highest accident rates). The segment with the highest total number of accidents over the three-year period examined was Route 48 from Kellogg Road to Lamson Road, with a total of 31 accidents. However, the calculated rate for this location is 2.02 acc/MVM, which is below the statewide average for similar facilities. The road segment with the second highest total number of accidents was Route 370/Route 31 from Route 48 to Virginia Street in the Village of Baldwinsville, which is included in Table 3 due to the relatively high accident rate for this short segment of road.

There were two fatal accidents on road segments within the town, each with one fatality, during the three-year period examined. One of these collisions occurred on Route 690 southbound, just south of Hencle Boulevard. The other fatality was a collision with a pedestrian that occurred on Route 370/Route 31 between Route 690 and Dexter Parkway.

Pedestrian and bicycle accidents

Within the three-year period examined, there were 8 pedestrian accidents (including one fatality) and 9 bicycle accidents in the Town of Lysander. None of the pedestrian or bicycle accidents occurred at the same location more than once. Most of the pedestrian and bicycle accidents occurred within the Village of Baldwinsville, which likely has more pedestrian and bicycle activity than other areas of the town. Figure 1 shows the location of pedestrian and bicycle accidents.

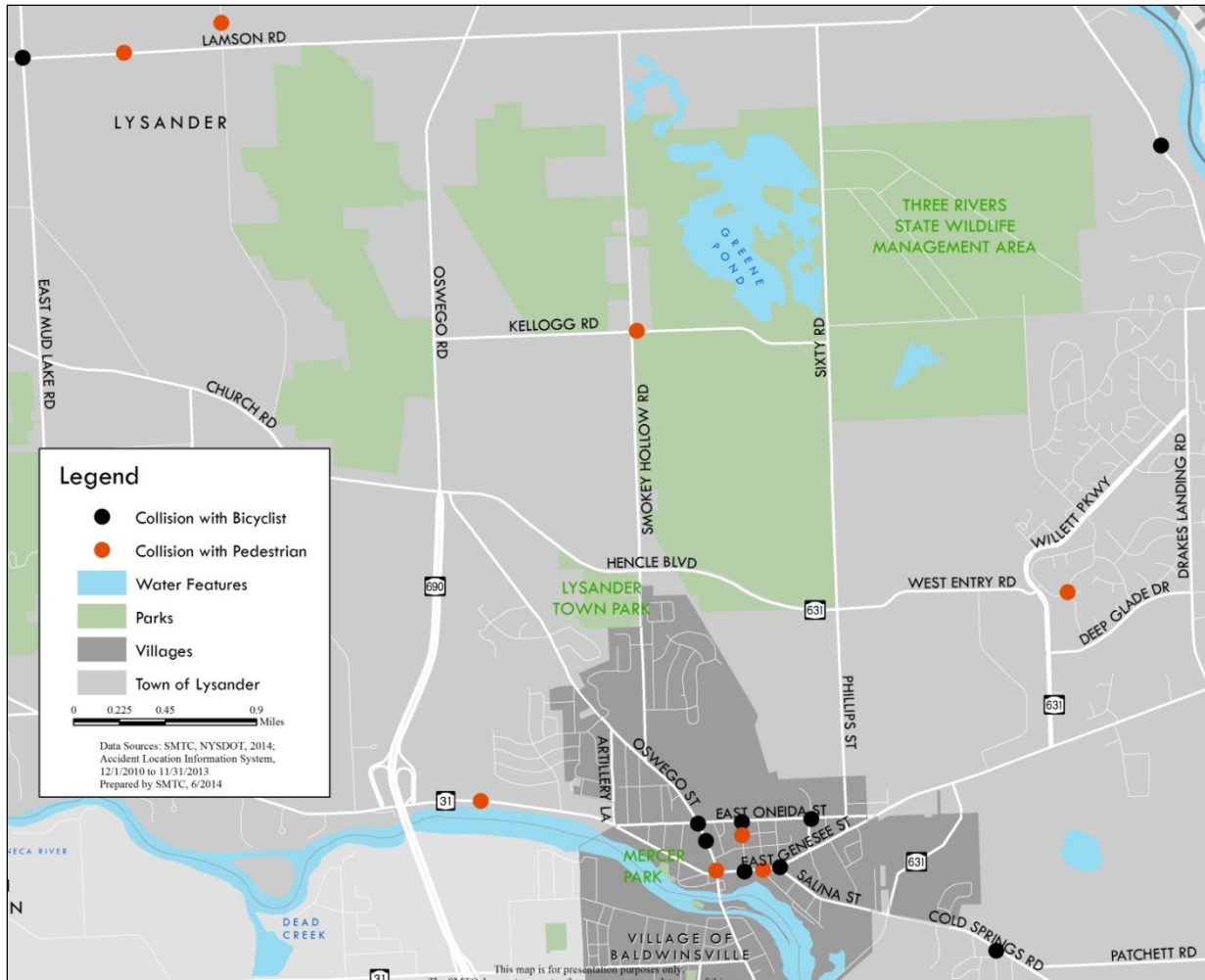


Figure 1: Pedestrian and bicycle accidents within the Town of Lysander (December 1, 2010, to November 30, 2013) Source: NYSDOT ALIS database

Summary

The SMTC has examined the available accident data for intersections and road segments, including bicycle and pedestrian accidents, in the Town of Lysander for the most recent three-year period available (December 1, 2010, to November 30, 2013). Accident data were obtained from the NYSDOT's Accident Location Identification System (ALIS). As detailed in this memo, accident rates at the Route 370/Route 48, Route 31/River Road, and Route 370/Hicks Road/Hayes Road intersections all exceed the published statewide average rate for similar type intersections. Rear-end or right-angle collisions were the most common collision type at these locations. The segment of River Road from Doyle Road to Patchett Road had the highest accident rate within the town, and the vast majority of collisions on this segment were collisions with deer or roadside objects. Pedestrian and bicyclist accidents mostly occurred within the Village of Baldwinsville, which likely has more pedestrian and bicycle activity than other parts of the town. None of the pedestrian or bicycle accidents occurred at the same location more than once.

Memorandum

TO: Town of Lysander Comprehensive Plan Update Committee

FROM: Meghan Vitale, SMTC

DATE: October 14, 2014

RE: Existing conditions assessment (Technical Memorandum #3)

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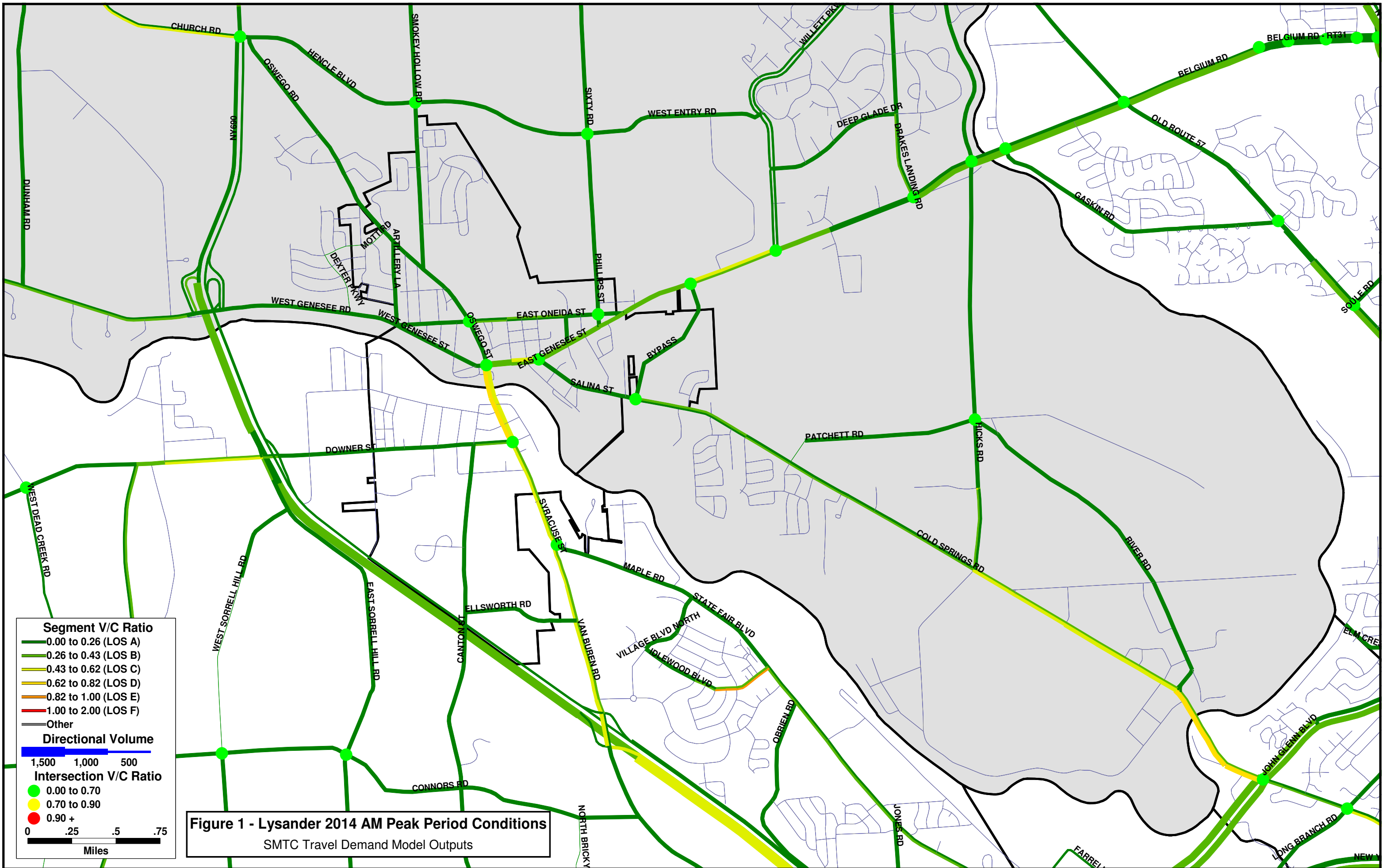
The SMTC has reviewed the outputs from our travel demand model for various intersections and segments within the Town of Lysander and conducted capacity analysis for selected intersections based on recent traffic count data. This memo summarizes the work conducted and our findings.

*Review of volume-to-capacity ratios from SMTC's travel demand model*

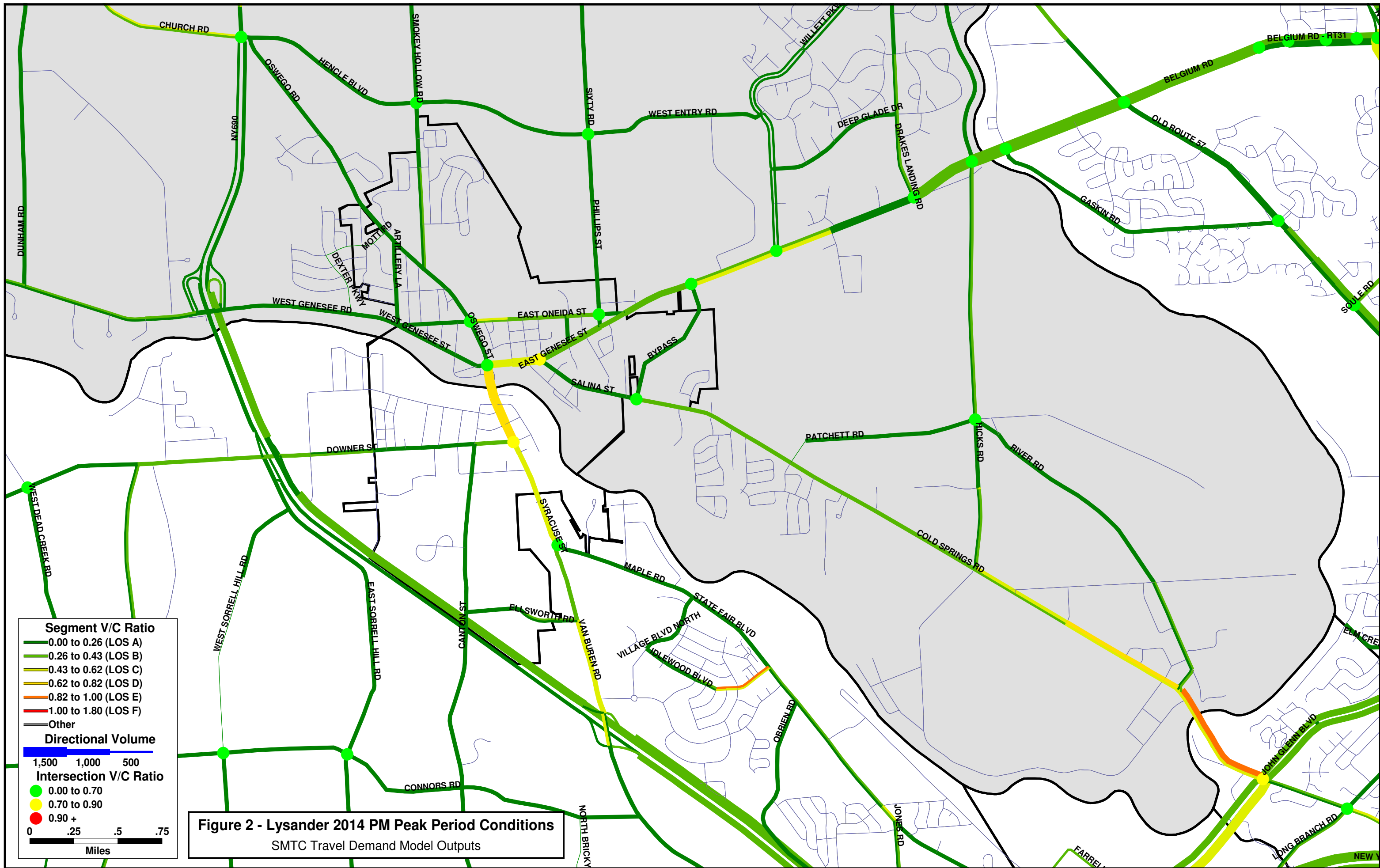
SMTC staff reviewed the volume-to-capacity ratios from the 2014 Existing Conditions travel demand model for road segments and intersections throughout the Town of Lysander.

The volume-to-capacity ratio varies from 0.0 to 1.0 and is a comparison of the current or projected traffic on a road or entering an intersection (in this case, the modeled volume) to the maximum traffic volume that the segment or intersection can reasonably be expected to accommodate. Values closer to 1.0 indicate that a segment or intersection is approaching capacity and operational issues may occur (drivers will experience longer delays). The volume-to-capacity ratio is abbreviated "V/C".

Figures 1 and 2 show the V/C ratio for model links (segments) and nodes (intersections) within the Cold Springs Peninsula area of the Town of Lysander and part of the adjoining towns for the AM and PM peak hours, respectively. Both figures show the 2014 Existing Conditions based on the SMTC travel demand model outputs.



**Figure 1 - Lysander 2014 AM Peak Period Conditions**  
SMTC Travel Demand Model Outputs



**Segment V/C Ratio**

- 0.00 to 0.26 (LOS A)
- 0.26 to 0.43 (LOS B)
- 0.43 to 0.62 (LOS C)
- 0.62 to 0.82 (LOS D)
- 0.82 to 1.00 (LOS E)
- 1.00 to 1.80 (LOS F)
- Other

**Directional Volume**

1,500 1,000 500

**Intersection V/C Ratio**

- 0.00 to 0.70
- 0.70 to 0.90
- 0.90 +

0 .25 .5 .75

Miles

**Figure 2 - Lysander 2014 PM Peak Period Conditions**  
 SMTC Travel Demand Model Outputs

All modeled intersections within the town except one have existing V/C ratios below 0.70, indicating good operation conditions. The intersection of Route 31 and Route 370 (East Genesee Street and Salina Street in the Village of Baldwinsville) is the only intersection with a V/C ratio between 0.7 and 0.9 (and only during the PM peak hour), indicating that drivers likely experience longer delays at this intersection.

The vast majority of modeled road segments show very good existing conditions (V/C ratios less than 0.43, or likely a level of service [LOS] A or B). The segments with higher V/C ratios include Route 31 near Willet Parkway, Route 370 between Hicks Road and River Road, Route 48 south of Route 31/370, and Route 31/370 east of Route 48. However, the V/C ratios for these segments are still relatively low (less than 0.82) indicating that these roads generally experience acceptable operating conditions (LOS C or D). The only road segment that appears to be approaching capacity is Route 370 between River Road and John Glenn Boulevard in the PM peak hour, which carries nearly 1,500 vehicles in the PM peak hour based on the travel demand model. Although Route 31 near the boundary with the Town of Clay carries the highest traffic volume in the town (even more than Route 690), this segment has two travel lanes in each direction and, therefore, has a higher capacity than Route 370.

#### *Existing conditions intersection capacity analysis*

SMTC also conducted capacity analysis at selected intersections to gain more detailed understanding of existing traffic operations at these locations.

Technical Memorandum #1 (August 4, 2014) summarized all of the recent turning movement counts that were conducted by the SMTC, the NYSDOT, and consultants. SMTC staff conducted turning movement counts at five intersections, and conducted a capacity analysis for each of these intersections under AM and PM peak hour conditions. The capacity analysis was conducted using Synchro 7 software. The resulting LOS and delay information is summarized in Table 1 and Table 2 for signalized and unsignalized intersections, respectively. Tables 1 and 2 also include level of service information from the “Timber Banks with YMCA Traffic Assessment – Response to NYSDOT Comments” (GTS Consulting, March 2013) for an additional four intersections. Attachment A contains the reports from Synchro for the five intersections analyzed by the SMTC.

**Table 1: Summary of Existing Conditions Capacity Analysis, Signalized Intersections**

| Intersection                        |                    | AM peak hour  | PM peak hour  |        |
|-------------------------------------|--------------------|---------------|---------------|--------|
| Approach                            | Movement           | LOS (delay)   | LOS (delay)   | Source |
| <b>Route 690 / Hencle Boulevard</b> |                    | <b>B (16)</b> | <b>B (15)</b> | SMTC   |
| Eastbound                           | Left/through/right | B (14)        | B (19)        |        |
| Westbound                           | Left/through       | C (23)        | C (24)        |        |
|                                     | Right              | B (13)        | B (18)        |        |
| Northbound                          | Left               | C (28)        | C (24)        |        |
|                                     | Through            | B (13)        | B (11)        |        |
|                                     | Right              | B (12)        | A (9)         |        |
| Southbound                          | Left               | C (27)        | C (23)        |        |
|                                     | Through            | B (15)        | B (12)        |        |
|                                     | Right              | B (12)        | B (10)        |        |
| <b>Route 370 / Route 48</b>         |                    | <b>B (15)</b> | <b>B (18)</b> | SMTC   |
| Eastbound                           | Left/through       | C (27)        | D (38)        |        |
|                                     | Right              | C (43)        | C (32)        |        |
| Westbound                           | Left               | B (13)        | B (17)        |        |
|                                     | Through/right      | A (7)         | A (10)        |        |
| Northbound                          | Left/through       | C (22)        | C (28)        |        |
|                                     | Right              | A (6)         | A (7)         |        |
| Southbound                          | Left/through/right | C (22)        | C (24)        |        |
| <b>Route 370 / Route 631</b>        |                    | <b>A (7)</b>  | <b>A (7)</b>  | SMTC   |
| Eastbound                           | Left               | A (5)         | A (5)         |        |
|                                     | Through            | A (6)         | A (7)         |        |
| Westbound                           | Through            | A (6)         | A (8)         |        |
|                                     | Right              | A (2)         | A (3)         |        |
| Southbound                          | Left               | B (15)        | B (12)        |        |
|                                     | Right              | B (13)        | B (11)        |        |
| <b>Route 31 / River Road</b>        |                    | <b>C (22)</b> | <b>C (27)</b> | GTS    |
| Eastbound                           | Left               | D (43)        | D (43)        |        |
|                                     | Through            | C (21)        | C (30)        |        |
|                                     | Right              | A (5)         | A (7)         |        |
| Westbound                           | Left               | D (45)        | E (57)        |        |
|                                     | Through/right      | B (14)        | B (19)        |        |
| Northbound                          | Left               | C (22)        | C (28)        |        |
|                                     | Through            | D (38)        | D (37)        |        |
|                                     | Right              | C (25)        | C (22)        |        |
| Southbound                          | Left               | C (29)        | C (24)        |        |
|                                     | Through/Right      | D (36)        | C (33)        |        |

LOS = Level of service. Delay is the average delay per vehicle, in seconds.

Note: Bold text indicates the overall LOS and average delay for a signalized intersection.

Source: SMTC, 2014; “Timber Banks with YMCA Traffic Assessment – Response to NYSDOT Comments” by GTS Consulting, March 2013.

**Table 2: Summary of Existing Conditions Capacity Analysis, Unsignalized Intersections**

| <b>Intersection</b>                            |                    | <b>AM peak hour</b> | <b>PM peak hour</b> | <b>Source</b> |
|------------------------------------------------|--------------------|---------------------|---------------------|---------------|
| <b>Approach</b>                                | <b>Movement</b>    | <b>LOS (delay)</b>  | <b>LOS (delay)</b>  |               |
| <b>Route 370 / Route 690 SB ramps</b>          |                    |                     |                     | SMTC          |
| Eastbound                                      | Left               | B (10)              | B (10)              |               |
| Southbound                                     | Left/right         | C (23)              | C (20)              |               |
| <b>Route 370 / Route 690 NB ramps</b>          |                    |                     |                     | SMTC          |
| Eastbound                                      | Left               | A (8)               | A (8)               |               |
| Southbound                                     | Left               | B (15)              | C (21)              |               |
|                                                | Right              | B (12)              | C (21)              |               |
| <b>Route 370 / Hicks Road / Hayes Road</b>     |                    |                     |                     | GTS           |
| Eastbound                                      | Left/through/right | A (1)               | A (1)               |               |
| Westbound                                      | Left/through/right | A (1)               | A (1)               |               |
| Northbound                                     | Left/through/right | B (15)              | C (21)              |               |
| Southbound                                     | Left/through/right | F (69)              | D (35)              |               |
| <b>Route 370 / River Road</b>                  |                    |                     |                     | GTS           |
| Eastbound                                      | Left/through       | A (1)               | A (1)               |               |
| Westbound                                      | Through/right      | A (0)               | A (0)               |               |
| Southbound                                     | Left/right         | F (95)              | F (193)             |               |
| <b>River Road / Patchett Road / Hicks Road</b> |                    |                     |                     | GTS           |
| Northbound                                     | Left/through/right | A (5)               | A (6)               |               |
| Northwestbound                                 | Left/through/right | A (4)               | A (5)               |               |
| Southbound                                     | Left/through/right | A (7)               | A (9)               |               |
| Eastbound                                      | Left/through/right | A (5)               | A (6)               |               |
| Westbound                                      | Left/through/right | A (3)               | A (3)               |               |

LOS = Level of service. Delay is the average delay per vehicle, in seconds.

Note: For unsignalized intersections, the HCM methodology does not provide an overall LOS or delay.

Source: SMTC, 2014; “Timber Banks with YMCA Traffic Assessment – Response to NYSDOT Comments” by GTS Consulting, March 2013.

The signalized intersections that were examined all operate at good overall levels of service with minimal to moderate delay. Most individual movements operate at LOS A or B with minimal delay. The Route 31/River Road intersection operates with the greatest delay of the intersections considered, although it still operates at an overall LOS C. Some individual movements at this intersection experience greater delay, operating at LOS D or E. The westbound left turn movement from Route 31 to River Road experiences the highest delay – at 57 seconds and LOS E – of any of the movements examined for signalized intersections.

In 2013, the NYSDOT conducted capacity analysis for the Route 370/John Glenn Boulevard intersection in the Town of Salina. This analysis indicates that the intersection operates at an

overall LOS F during the AM peak hour and LOS E during the PM peak hour, with the following individual movements operating at LOS F:

- Route 370 eastbound left (AM)
- Route 370 eastbound through/right (AM and PM)
- Route 370 westbound through/right (PM)
- John Glenn Boulevard northbound left (PM)

Turning movements at the unsignalized intersections that were examined mostly operate at LOS A, B, or C, indicating relatively good operations with little delay to drivers. The exceptions are the southbound movements from River Road to Route 370 and the southbound movements from Hicks Road to Route 370, which operate at LOS D or F. At both of these locations, there is a single southbound lane from which to make all turning movements onto Route 370 and most of the southbound traffic on Hicks Road and River Road turns left onto Route 370. The southbound left turn volume at both of these intersections is approximately 200 vehicles in the AM peak hour and 100 vehicles in the PM peak hour, and the volumes on Route 370 vary from around 700 vehicles per hour to over 1,300 vehicles per hour. The result is that drivers trying to turn onto Route 370 from Hicks Road or River Road may experience delay, on average, of 1 to 3 minutes. According to the “Timber Banks with YMCA Traffic Assessment – Response to NYSDOT Comments” (GTS Consulting, March 2013), both of these locations may be considered for a signal warrant analysis once the reduced initial build out levels for Timber Banks are reached.

### *Summary*

In general, the results of our intersection capacity analysis and review of the travel demand model outputs for segments and intersections indicate that traffic flows quite well in the Town of Lysander under the existing conditions. There are a few isolated areas of moderate concern such as Routes 31/370 and Route 48 near the “four corners” in Baldwinsville and Route 31 near Willett Parkway which may begin to approach capacity in the future, depending on the level of development and amount of new trips that are generated. There are also a few places that currently experience “poor” levels of service. These locations include the unsignalized intersections of Hicks Road and River Road with Route 370, the westbound left-turn movement from Route 31 onto River Road, and Route 370 between River Road and John Glenn Boulevard. Future development plans should be mindful of the potential for additional traffic at these locations, which would exacerbate the existing concerns. Mitigation measures, such as new traffic signals, may need to be considered as part of future development plans; however, this would require additional technical analysis and coordination with the NYSDOT. The cost of installing and maintaining a traffic signal – or any transportation infrastructure that increases capacity – should be weighed against the likely benefit to all residents and the potential to induce additional demand in the future.

## **Attachment A**

Synchro reports

# HCM Signalized Intersection Capacity Analysis

## 1: Church Road & Route 48

Existing Conditions  
AM Peak Hour

| Movement               | EBL  | EBT  | EBR  | WBL  | WBT   | WBR  | NBL  | NBT  | NBR  | SBL   | SBT   | SBR  |
|------------------------|------|------|------|------|-------|------|------|------|------|-------|-------|------|
| Lane Configurations    |      | ↔    |      |      | ↔     | ↗    | ↘    | ↕    | ↗    | ↘     | ↕     | ↗    |
| Volume (vph)           | 5    | 44   | 127  | 158  | 17    | 38   | 33   | 228  | 67   | 41    | 444   | 3    |
| Ideal Flow (vphpl)     | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900 | 1900 | 1900 | 1900  | 1900  | 1900 |
| Total Lost time (s)    |      | 6.0  |      |      | 6.0   | 6.0  | 5.0  | 7.0  | 7.0  | 5.0   | 7.0   | 7.0  |
| Lane Util. Factor      |      | 1.00 |      |      | 1.00  | 1.00 | 1.00 | 0.95 | 1.00 | 1.00  | 0.95  | 1.00 |
| Frt                    |      | 0.90 |      |      | 1.00  | 0.85 | 1.00 | 1.00 | 0.85 | 1.00  | 1.00  | 0.85 |
| Flt Protected          |      | 1.00 |      |      | 0.96  | 1.00 | 0.95 | 1.00 | 1.00 | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)      |      | 1667 |      |      | 1663  | 1615 | 1492 | 3312 | 1429 | 1687  | 3374  | 1615 |
| Flt Permitted          |      | 0.99 |      |      | 0.65  | 1.00 | 0.95 | 1.00 | 1.00 | 0.95  | 1.00  | 1.00 |
| Satd. Flow (perm)      |      | 1649 |      |      | 1138  | 1615 | 1492 | 3312 | 1429 | 1687  | 3374  | 1615 |
| Peak-hour factor, PHF  | 0.81 | 0.81 | 0.81 | 0.78 | 0.78  | 0.78 | 0.83 | 0.83 | 0.83 | 0.90  | 0.90  | 0.90 |
| Adj. Flow (vph)        | 6    | 54   | 157  | 203  | 22    | 49   | 40   | 275  | 81   | 46    | 493   | 3    |
| RTOR Reduction (vph)   | 0    | 114  | 0    | 0    | 0     | 35   | 0    | 0    | 55   | 0     | 0     | 2    |
| Lane Group Flow (vph)  | 0    | 103  | 0    | 0    | 225   | 14   | 40   | 275  | 26   | 46    | 493   | 1    |
| Heavy Vehicles (%)     | 0%   | 5%   | 2%   | 9%   | 12%   | 0%   | 21%  | 9%   | 13%  | 7%    | 7%    | 0%   |
| Turn Type              | Perm |      |      | Perm |       | Perm | Prot |      | Perm | Prot  |       | Perm |
| Protected Phases       |      | 4    |      |      | 8     |      | 5    | 2    |      | 1     | 6     |      |
| Permitted Phases       | 4    |      |      | 8    |       | 8    |      | 2    |      |       |       | 6    |
| Actuated Green, G (s)  |      | 13.9 |      |      | 13.9  | 13.9 | 2.5  | 15.9 | 15.9 | 2.5   | 15.9  | 15.9 |
| Effective Green, g (s) |      | 13.9 |      |      | 13.9  | 13.9 | 2.5  | 15.9 | 15.9 | 2.5   | 15.9  | 15.9 |
| Actuated g/C Ratio     |      | 0.28 |      |      | 0.28  | 0.28 | 0.05 | 0.32 | 0.32 | 0.05  | 0.32  | 0.32 |
| Clearance Time (s)     |      | 6.0  |      |      | 6.0   | 6.0  | 5.0  | 7.0  | 7.0  | 5.0   | 7.0   | 7.0  |
| Vehicle Extension (s)  |      | 2.0  |      |      | 2.0   | 2.0  | 2.0  | 5.7  | 5.7  | 2.0   | 5.7   | 5.7  |
| Lane Grp Cap (vph)     |      | 456  |      |      | 314   | 446  | 74   | 1047 | 452  | 84    | 1067  | 511  |
| v/s Ratio Prot         |      |      |      |      |       |      | 0.03 | 0.08 |      | c0.03 | c0.15 |      |
| v/s Ratio Perm         |      | 0.06 |      |      | c0.20 | 0.01 |      |      | 0.02 |       |       | 0.00 |
| v/c Ratio              |      | 0.23 |      |      | 0.72  | 0.03 | 0.54 | 0.26 | 0.06 | 0.55  | 0.46  | 0.00 |
| Uniform Delay, d1      |      | 14.1 |      |      | 16.4  | 13.3 | 23.3 | 12.8 | 12.0 | 23.3  | 13.8  | 11.8 |
| Progression Factor     |      | 1.00 |      |      | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2  |      | 0.1  |      |      | 6.4   | 0.0  | 4.3  | 0.3  | 0.1  | 3.9   | 0.8   | 0.0  |
| Delay (s)              |      | 14.1 |      |      | 22.8  | 13.3 | 27.6 | 13.2 | 12.1 | 27.2  | 14.6  | 11.8 |
| Level of Service       |      | B    |      |      | C     | B    | C    | B    | B    | C     | B     | B    |
| Approach Delay (s)     |      | 14.1 |      |      | 21.1  |      |      | 14.4 |      |       | 15.7  |      |
| Approach LOS           |      | B    |      |      | C     |      |      | B    |      |       | B     |      |

| Intersection Summary              |       |                           |
|-----------------------------------|-------|---------------------------|
| HCM Average Control Delay         | 16.1  | HCM Level of Service B    |
| HCM Volume to Capacity ratio      | 0.58  |                           |
| Actuated Cycle Length (s)         | 50.3  | Sum of lost time (s) 18.0 |
| Intersection Capacity Utilization | 55.9% | ICU Level of Service B    |
| Analysis Period (min)             | 15    |                           |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 2: Route 370 & Route 690 SB

Existing Conditions  
 AM Peak Hour



| Movement                          | EBL         | EBT         | WBT         | WBR         | SBL                  | SBR  |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|------|
| Lane Configurations               | ↙           | ↑           | ↑           | ↘           | ↙                    | ↘    |
| Volume (veh/h)                    | 351         | 188         | 185         | 163         | 10                   | 17   |
| Sign Control                      |             | Free        | Free        |             | Stop                 |      |
| Grade                             |             | 0%          | 0%          |             | 0%                   |      |
| Peak Hour Factor                  | 0.84        | 0.84        | 0.79        | 0.79        | 0.75                 | 0.75 |
| Hourly flow rate (vph)            | 418         | 224         | 234         | 206         | 13                   | 23   |
| Pedestrians                       |             |             |             |             |                      |      |
| Lane Width (ft)                   |             |             |             |             |                      |      |
| Walking Speed (ft/s)              |             |             |             |             |                      |      |
| Percent Blockage                  |             |             |             |             |                      |      |
| Right turn flare (veh)            |             |             |             |             |                      |      |
| Median type                       |             | None        | None        |             |                      |      |
| Median storage (veh)              |             |             |             |             |                      |      |
| Upstream signal (ft)              |             |             |             |             |                      |      |
| pX, platoon unblocked             |             |             |             |             |                      |      |
| vC, conflicting volume            | 441         |             |             |             | 1294                 | 234  |
| vC1, stage 1 conf vol             |             |             |             |             |                      |      |
| vC2, stage 2 conf vol             |             |             |             |             |                      |      |
| vCu, unblocked vol                | 441         |             |             |             | 1294                 | 234  |
| tC, single (s)                    | 4.1         |             |             |             | 6.5                  | 6.2  |
| tC, 2 stage (s)                   |             |             |             |             |                      |      |
| tF (s)                            | 2.2         |             |             |             | 3.6                  | 3.3  |
| p0 queue free %                   | 62          |             |             |             | 88                   | 97   |
| cM capacity (veh/h)               | 1114        |             |             |             | 108                  | 810  |
| <b>Direction, Lane #</b>          | <b>EB 1</b> | <b>EB 2</b> | <b>WB 1</b> | <b>WB 2</b> | <b>SB 1</b>          |      |
| Volume Total                      | 418         | 224         | 234         | 206         | 36                   |      |
| Volume Left                       | 418         | 0           | 0           | 0           | 13                   |      |
| Volume Right                      | 0           | 0           | 0           | 206         | 23                   |      |
| cSH                               | 1114        | 1700        | 1700        | 1700        | 238                  |      |
| Volume to Capacity                | 0.38        | 0.13        | 0.14        | 0.12        | 0.15                 |      |
| Queue Length 95th (ft)            | 44          | 0           | 0           | 0           | 13                   |      |
| Control Delay (s)                 | 10.2        | 0.0         | 0.0         | 0.0         | 22.8                 |      |
| Lane LOS                          | B           |             |             |             | C                    |      |
| Approach Delay (s)                | 6.6         |             | 0.0         |             | 22.8                 |      |
| Approach LOS                      |             |             |             |             | C                    |      |
| <b>Intersection Summary</b>       |             |             |             |             |                      |      |
| Average Delay                     |             |             | 4.5         |             |                      |      |
| Intersection Capacity Utilization |             |             | 42.5%       |             | ICU Level of Service | A    |
| Analysis Period (min)             |             |             | 15          |             |                      |      |

HCM Unsignalized Intersection Capacity Analysis  
 3: Route 370 & Route 690 NB

Existing Conditions  
 AM Peak Hour



| Movement                          | EBL  | EBT  | WBT   | WBR  | SBL                  | SBR  |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Lane Configurations               | ↙    | ↑    | ↑     | ↗    | ↙                    | ↗    |
| Volume (veh/h)                    | 18   | 187  | 242   | 10   | 61                   | 111  |
| Sign Control                      |      | Free | Free  |      | Stop                 |      |
| Grade                             |      | 0%   | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.93 | 0.93 | 0.69  | 0.69 | 0.78                 | 0.78 |
| Hourly flow rate (vph)            | 19   | 201  | 351   | 14   | 78                   | 142  |
| Pedestrians                       |      |      |       |      |                      |      |
| Lane Width (ft)                   |      |      |       |      |                      |      |
| Walking Speed (ft/s)              |      |      |       |      |                      |      |
| Percent Blockage                  |      |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      | None | None  |      |                      |      |
| Median storage veh                |      |      |       |      |                      |      |
| Upstream signal (ft)              |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 365  |      |       |      | 591                  | 351  |
| vC1, stage 1 conf vol             |      |      |       |      |                      |      |
| vC2, stage 2 conf vol             |      |      |       |      |                      |      |
| vCu, unblocked vol                | 365  |      |       |      | 591                  | 351  |
| tC, single (s)                    | 4.1  |      |       |      | 6.5                  | 6.3  |
| tC, 2 stage (s)                   |      |      |       |      |                      |      |
| tF (s)                            | 2.2  |      |       |      | 3.6                  | 3.4  |
| p0 queue free %                   | 98   |      |       |      | 82                   | 79   |
| cM capacity (veh/h)               | 1204 |      |       |      | 445                  | 677  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | SB 1                 | SB 2 |
| Volume Total                      | 19   | 201  | 351   | 14   | 78                   | 142  |
| Volume Left                       | 19   | 0    | 0     | 0    | 78                   | 0    |
| Volume Right                      | 0    | 0    | 0     | 14   | 0                    | 142  |
| cSH                               | 1204 | 1700 | 1700  | 1700 | 445                  | 677  |
| Volume to Capacity                | 0.02 | 0.12 | 0.21  | 0.01 | 0.18                 | 0.21 |
| Queue Length 95th (ft)            | 1    | 0    | 0     | 0    | 16                   | 20   |
| Control Delay (s)                 | 8.0  | 0.0  | 0.0   | 0.0  | 14.8                 | 11.7 |
| Lane LOS                          | A    |      |       |      | B                    | B    |
| Approach Delay (s)                | 0.7  |      | 0.0   |      | 12.8                 |      |
| Approach LOS                      |      |      |       |      | B                    |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 3.7   |      |                      |      |
| Intersection Capacity Utilization |      |      | 26.3% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

# HCM Signalized Intersection Capacity Analysis

## 4: Route 370/Route 31 & Route 48

Existing Conditions  
AM Peak Hour



| Movement                          | EBL                 | EBT  | EBR   | WBL   | WBT  | WBR  | NBL   | NBT  | NBR   | SBL  | SBT  | SBR                  |   |
|-----------------------------------|---------------------|------|-------|-------|------|------|-------|------|-------|------|------|----------------------|---|
| Lane Configurations               |                     | ↖    | ↗     | ↖     | ↗    |      |       | ↖    | ↗     |      | ↕    |                      |   |
| Volume (vph)                      | 4                   | 187  | 86    | 436   | 134  | 28   | 43    | 130  | 432   | 3    | 179  | 7                    |   |
| Ideal Flow (vphpl)                | 1900                | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 | 1900                 |   |
| Lane Width                        | 12                  | 11   | 10    | 12    | 11   | 13   | 12    | 12   | 13    | 12   | 16   | 12                   |   |
| Total Lost time (s)               |                     | 5.0  | 5.0   | 5.0   | 5.0  |      |       | 5.5  | 5.5   |      | 5.5  |                      |   |
| Lane Util. Factor                 |                     | 1.00 | 1.00  | 1.00  | 1.00 |      |       | 1.00 | 1.00  |      | 1.00 |                      |   |
| Frpb, ped/bikes                   |                     | 1.00 | 0.98  | 1.00  | 1.00 |      |       | 1.00 | 1.00  |      | 1.00 |                      |   |
| Flpb, ped/bikes                   |                     | 1.00 | 1.00  | 1.00  | 1.00 |      |       | 1.00 | 1.00  |      | 1.00 |                      |   |
| Fr t                              |                     | 1.00 | 0.85  | 1.00  | 0.97 |      |       | 1.00 | 0.85  |      | 1.00 |                      |   |
| Fl t Protected                    |                     | 1.00 | 1.00  | 0.95  | 1.00 |      |       | 0.99 | 1.00  |      | 1.00 |                      |   |
| Satd. Flow (prot)                 |                     | 1774 | 1276  | 1735  | 1674 |      |       | 1546 | 1636  |      | 1733 |                      |   |
| Fl t Permitted                    |                     | 0.99 | 1.00  | 0.40  | 1.00 |      |       | 0.87 | 1.00  |      | 1.00 |                      |   |
| Satd. Flow (perm)                 |                     | 1763 | 1276  | 735   | 1674 |      |       | 1368 | 1636  |      | 1726 |                      |   |
| Peak-hour factor, PHF             | 0.95                | 0.95 | 0.95  | 0.85  | 0.85 | 0.85 | 0.89  | 0.89 | 0.89  | 0.77 | 0.77 | 0.77                 |   |
| Adj. Flow (vph)                   | 4                   | 197  | 91    | 513   | 158  | 33   | 48    | 146  | 485   | 4    | 232  | 9                    |   |
| RTOR Reduction (vph)              | 0                   | 0    | 0     | 0     | 0    | 0    | 0     | 0    | 0     | 0    | 0    | 0                    |   |
| Lane Group Flow (vph)             | 0                   | 201  | 91    | 513   | 191  | 0    | 0     | 194  | 485   | 0    | 245  | 0                    |   |
| Confl. Peds. (#/hr)               | 1                   |      | 1     | 1     |      | 1    | 4     |      | 2     | 2    |      | 4                    |   |
| Heavy Vehicles (%)                | 25%                 | 3%   | 4%    | 4%    | 7%   | 4%   | 7%    | 26%  | 2%    | 0%   | 10%  | 43%                  |   |
| Parking (#/hr)                    |                     |      | 0     |       |      |      |       |      |       |      |      | 0                    |   |
| Turn Type                         | Perm                |      | Perm  | pm+pt |      |      | pm+pt |      | pt+ov | Perm |      |                      |   |
| Protected Phases                  |                     | 2    |       | 1     | 6    |      | 7     | 4    | 4.1   |      |      | 8                    |   |
| Permitted Phases                  | 2                   |      | 2     | 6     |      | 4    |       |      |       | 8    |      |                      |   |
| Actuated Green, G (s)             |                     | 13.9 | 13.9  | 38.9  | 38.9 |      |       | 19.1 | 44.6  |      |      | 19.1                 |   |
| Effective Green, g (s)            |                     | 13.9 | 13.9  | 38.9  | 38.9 |      |       | 19.1 | 44.6  |      |      | 19.1                 |   |
| Actuated g/C Ratio                |                     | 0.20 | 0.20  | 0.57  | 0.57 |      |       | 0.28 | 0.65  |      |      | 0.28                 |   |
| Clearance Time (s)                |                     | 5.0  | 5.0   | 5.0   | 5.0  |      |       | 5.5  |       |      |      | 5.5                  |   |
| Vehicle Extension (s)             |                     | 3.0  | 3.0   | 3.0   | 3.0  |      |       | 3.0  |       |      |      | 3.0                  |   |
| Lane Grp Cap (vph)                |                     | 358  | 259   | 709   | 951  |      |       | 381  | 1065  |      |      | 481                  |   |
| v/s Ratio Prot                    |                     |      |       | c0.21 | 0.11 |      |       |      | c0.30 |      |      |                      |   |
| v/s Ratio Perm                    |                     | 0.11 | 0.07  | c0.20 |      |      |       | 0.14 |       |      |      | 0.14                 |   |
| v/c Ratio                         |                     | 0.56 | 0.35  | 0.72  | 0.20 |      |       | 0.51 | 0.46  |      |      | 0.51                 |   |
| Uniform Delay, d1                 |                     | 24.6 | 23.4  | 9.7   | 7.2  |      |       | 20.8 | 5.9   |      |      | 20.8                 |   |
| Progression Factor                |                     | 1.00 | 1.00  | 1.00  | 1.00 |      |       | 1.00 | 1.00  |      |      | 1.00                 |   |
| Incremental Delay, d2             |                     | 2.0  | 0.8   | 3.7   | 0.1  |      |       | 1.1  | 0.3   |      |      | 0.9                  |   |
| Delay (s)                         |                     | 26.6 | 24.3  | 13.4  | 7.3  |      |       | 21.8 | 6.2   |      |      | 21.6                 |   |
| Level of Service                  |                     | C    | C     | B     | A    |      |       | C    | A     |      |      | C                    |   |
| Approach Delay (s)                |                     | 25.9 |       |       | 11.7 |      |       | 10.7 |       |      |      | 21.6                 |   |
| Approach LOS                      |                     | C    |       |       | B    |      |       | B    |       |      |      | C                    |   |
| <b>Intersection Summary</b>       |                     |      |       |       |      |      |       |      |       |      |      |                      |   |
| HCM Average Control Delay         |                     |      | 14.8  |       |      |      |       |      |       |      |      | HCM Level of Service | B |
| HCM Volume to Capacity ratio      |                     |      | 0.64  |       |      |      |       |      |       |      |      |                      |   |
| Actuated Cycle Length (s)         |                     |      | 68.5  |       |      |      |       |      | 10.5  |      |      |                      |   |
| Intersection Capacity Utilization |                     |      | 76.3% |       |      |      |       |      |       |      |      | ICU Level of Service | D |
| Analysis Period (min)             |                     |      | 15    |       |      |      |       |      |       |      |      |                      |   |
| c                                 | Critical Lane Group |      |       |       |      |      |       |      |       |      |      |                      |   |

HCM Signalized Intersection Capacity Analysis  
5: Route 370 & Route 631

Existing Conditions  
AM Peak Hour



| Movement                          | EBL  | EBT   | WBT   | WBR   | SBL                  | SBR  |
|-----------------------------------|------|-------|-------|-------|----------------------|------|
| Lane Configurations               | ↔    | ↑     | ↑     | ↗     | ↖                    | ↗    |
| Volume (vph)                      | 8    | 236   | 232   | 79    | 74                   | 2    |
| Ideal Flow (vphpl)                | 1900 | 1900  | 1900  | 1900  | 1900                 | 1900 |
| Lane Width                        | 12   | 12    | 10    | 12    | 12                   | 12   |
| Total Lost time (s)               | 6.5  | 6.5   | 6.5   | 6.0   | 6.0                  | 6.0  |
| Lane Util. Factor                 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00 |
| Frt                               | 1.00 | 1.00  | 1.00  | 0.85  | 1.00                 | 0.85 |
| Flt Protected                     | 0.95 | 1.00  | 1.00  | 1.00  | 0.95                 | 1.00 |
| Satd. Flow (prot)                 | 1597 | 1810  | 1689  | 1495  | 1626                 | 1615 |
| Flt Permitted                     | 0.60 | 1.00  | 1.00  | 1.00  | 0.95                 | 1.00 |
| Satd. Flow (perm)                 | 1003 | 1810  | 1689  | 1495  | 1626                 | 1615 |
| Peak-hour factor, PHF             | 0.80 | 0.80  | 0.88  | 0.88  | 0.71                 | 0.71 |
| Adj. Flow (vph)                   | 10   | 295   | 264   | 90    | 104                  | 3    |
| RTOR Reduction (vph)              | 0    | 0     | 0     | 0     | 0                    | 3    |
| Lane Group Flow (vph)             | 10   | 295   | 264   | 90    | 104                  | 0    |
| Heavy Vehicles (%)                | 13%  | 5%    | 5%    | 8%    | 11%                  | 0%   |
| Turn Type                         | Perm |       |       | pm+ov |                      | Perm |
| Protected Phases                  |      | 6     | 2     | 4     | 4                    |      |
| Permitted Phases                  | 6    |       |       | 2     |                      | 4    |
| Actuated Green, G (s)             | 18.8 | 18.8  | 18.8  | 24.2  | 5.4                  | 5.4  |
| Effective Green, g (s)            | 18.8 | 18.8  | 18.8  | 24.2  | 5.4                  | 5.4  |
| Actuated g/C Ratio                | 0.51 | 0.51  | 0.51  | 0.66  | 0.15                 | 0.15 |
| Clearance Time (s)                | 6.5  | 6.5   | 6.5   | 6.0   | 6.0                  | 6.0  |
| Vehicle Extension (s)             | 6.0  | 6.0   | 6.0   | 2.0   | 2.0                  | 2.0  |
| Lane Grp Cap (vph)                | 514  | 927   | 865   | 1230  | 239                  | 238  |
| v/s Ratio Prot                    |      | c0.16 | 0.16  | 0.01  | c0.06                |      |
| v/s Ratio Perm                    | 0.01 |       |       | 0.05  |                      | 0.00 |
| v/c Ratio                         | 0.02 | 0.32  | 0.31  | 0.07  | 0.44                 | 0.00 |
| Uniform Delay, d1                 | 4.4  | 5.2   | 5.2   | 2.2   | 14.3                 | 13.4 |
| Progression Factor                | 1.00 | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00 |
| Incremental Delay, d2             | 0.0  | 0.6   | 0.6   | 0.0   | 0.5                  | 0.0  |
| Delay (s)                         | 4.5  | 5.8   | 5.7   | 2.2   | 14.7                 | 13.4 |
| Level of Service                  | A    | A     | A     | A     | B                    | B    |
| Approach Delay (s)                |      | 5.7   | 4.9   |       | 14.7                 |      |
| Approach LOS                      |      | A     | A     |       | B                    |      |
| <b>Intersection Summary</b>       |      |       |       |       |                      |      |
| HCM Average Control Delay         |      |       | 6.6   |       | HCM Level of Service | A    |
| HCM Volume to Capacity ratio      |      |       | 0.34  |       |                      |      |
| Actuated Cycle Length (s)         |      |       | 36.7  |       | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization |      |       | 30.4% |       | ICU Level of Service | A    |
| Analysis Period (min)             |      |       | 15    |       |                      |      |
| c Critical Lane Group             |      |       |       |       |                      |      |

# HCM Signalized Intersection Capacity Analysis

## 1: Church Road & Route 48

Existing Conditions  
PM Peak Hour



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT   | WBR  | NBL   | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|-------|------|-------|-------|------|------|------|------|
| Lane Configurations    |      | ↔    |      |      | ↕     | ↗    | ↖     | ↑↑    | ↗    | ↖    | ↑↑   | ↗    |
| Volume (vph)           | 2    | 36   | 55   | 89   | 35    | 43   | 121   | 534   | 155  | 62   | 301  | 3    |
| Ideal Flow (vphpl)     | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s)    |      | 6.0  |      |      | 6.0   | 6.0  | 5.0   | 7.0   | 7.0  | 5.0  | 7.0  | 7.0  |
| Lane Util. Factor      |      | 1.00 |      |      | 1.00  | 1.00 | 1.00  | 0.95  | 1.00 | 1.00 | 0.95 | 1.00 |
| Flt                    |      | 0.92 |      |      | 1.00  | 0.85 | 1.00  | 1.00  | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected          |      | 1.00 |      |      | 0.97  | 1.00 | 0.95  | 1.00  | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot)      |      | 1746 |      |      | 1656  | 1615 | 1787  | 3539  | 1442 | 1770 | 3282 | 1615 |
| Flt Permitted          |      | 0.99 |      |      | 0.81  | 1.00 | 0.95  | 1.00  | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm)      |      | 1728 |      |      | 1382  | 1615 | 1787  | 3539  | 1442 | 1770 | 3282 | 1615 |
| Peak-hour factor, PHF  | 0.69 | 0.69 | 0.69 | 0.92 | 0.92  | 0.92 | 0.92  | 0.92  | 0.92 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph)        | 3    | 52   | 80   | 97   | 38    | 47   | 132   | 580   | 168  | 70   | 338  | 3    |
| RTOR Reduction (vph)   | 0    | 67   | 0    | 0    | 0     | 40   | 0     | 0     | 100  | 0    | 0    | 2    |
| Lane Group Flow (vph)  | 0    | 68   | 0    | 0    | 135   | 7    | 132   | 580   | 68   | 70   | 338  | 1    |
| Heavy Vehicles (%)     | 0%   | 0%   | 0%   | 15%  | 0%    | 0%   | 1%    | 2%    | 12%  | 2%   | 10%  | 0%   |
| Turn Type              | Perm |      |      | Perm |       | Perm | Prot  |       | Perm | Prot |      | Perm |
| Protected Phases       |      | 4    |      |      | 8     |      | 5     | 2     |      | 1    | 6    |      |
| Permitted Phases       | 4    |      |      | 8    |       | 8    |       |       | 2    |      |      | 6    |
| Actuated Green, G (s)  |      | 7.9  |      |      | 7.9   | 7.9  | 6.1   | 20.3  | 20.3 | 4.0  | 18.2 | 18.2 |
| Effective Green, g (s) |      | 7.9  |      |      | 7.9   | 7.9  | 6.1   | 20.3  | 20.3 | 4.0  | 18.2 | 18.2 |
| Actuated g/C Ratio     |      | 0.16 |      |      | 0.16  | 0.16 | 0.12  | 0.40  | 0.40 | 0.08 | 0.36 | 0.36 |
| Clearance Time (s)     |      | 6.0  |      |      | 6.0   | 6.0  | 5.0   | 7.0   | 7.0  | 5.0  | 7.0  | 7.0  |
| Vehicle Extension (s)  |      | 2.0  |      |      | 2.0   | 2.0  | 2.0   | 5.7   | 5.7  | 2.0  | 5.7  | 5.7  |
| Lane Grp Cap (vph)     |      | 272  |      |      | 217   | 254  | 217   | 1431  | 583  | 141  | 1190 | 586  |
| v/s Ratio Prot         |      |      |      |      |       |      | c0.07 | c0.16 |      | 0.04 | 0.10 |      |
| v/s Ratio Perm         |      | 0.04 |      |      | c0.10 | 0.00 |       |       | 0.05 |      |      | 0.00 |
| v/c Ratio              |      | 0.25 |      |      | 0.62  | 0.03 | 0.61  | 0.41  | 0.12 | 0.50 | 0.28 | 0.00 |
| Uniform Delay, d1      |      | 18.5 |      |      | 19.8  | 17.9 | 20.9  | 10.7  | 9.3  | 22.1 | 11.4 | 10.2 |
| Progression Factor     |      | 1.00 |      |      | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2  |      | 0.2  |      |      | 4.0   | 0.0  | 3.3   | 0.5   | 0.2  | 1.0  | 0.3  | 0.0  |
| Delay (s)              |      | 18.7 |      |      | 23.7  | 17.9 | 24.2  | 11.1  | 9.6  | 23.1 | 11.7 | 10.2 |
| Level of Service       |      | B    |      |      | C     | B    | C     | B     | A    | C    | B    | B    |
| Approach Delay (s)     |      | 18.7 |      |      | 22.2  |      |       | 12.8  |      |      | 13.6 |      |
| Approach LOS           |      | B    |      |      | C     |      |       | B     |      |      | B    |      |

### Intersection Summary

|                                   |       |                      |      |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay         | 14.6  | HCM Level of Service | B    |
| HCM Volume to Capacity ratio      | 0.43  |                      |      |
| Actuated Cycle Length (s)         | 50.2  | Sum of lost time (s) | 11.0 |
| Intersection Capacity Utilization | 47.6% | ICU Level of Service | A    |
| Analysis Period (min)             | 15    |                      |      |

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 2: Route 370 & Route 690 SB

Existing Conditions  
PM Peak Hour



| Movement                          | EBL  | EBT  | WBT   | WBR  | SBL                  | SBR  |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Lane Configurations               | ↶    | ↷    | ↶     | ↷    | ↶                    | ↷    |
| Volume (veh/h)                    | 156  | 174  | 586   | 114  | 11                   | 21   |
| Sign Control                      |      | Free | Free  |      | Stop                 |      |
| Grade                             |      | 0%   | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.95 | 0.95 | 0.88  | 0.88 | 0.89                 | 0.89 |
| Hourly flow rate (vph)            | 164  | 183  | 666   | 130  | 12                   | 24   |
| Pedestrians                       |      |      |       |      |                      |      |
| Lane Width (ft)                   |      |      |       |      |                      |      |
| Walking Speed (ft/s)              |      |      |       |      |                      |      |
| Percent Blockage                  |      |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      | None | None  |      |                      |      |
| Median storage veh                |      |      |       |      |                      |      |
| Upstream signal (ft)              |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 795  |      |       |      | 1177                 | 666  |
| vC1, stage 1 conf vol             |      |      |       |      |                      |      |
| vC2, stage 2 conf vol             |      |      |       |      |                      |      |
| vCu, unblocked vol                | 795  |      |       |      | 1177                 | 666  |
| tC, single (s)                    | 4.1  |      |       |      | 6.5                  | 6.3  |
| tC, 2 stage (s)                   |      |      |       |      |                      |      |
| tF (s)                            | 2.2  |      |       |      | 3.6                  | 3.4  |
| p0 queue free %                   | 80   |      |       |      | 92                   | 95   |
| cM capacity (veh/h)               | 826  |      |       |      | 164                  | 446  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | SB 1                 |      |
| Volume Total                      | 164  | 183  | 666   | 130  | 36                   |      |
| Volume Left                       | 164  | 0    | 0     | 0    | 12                   |      |
| Volume Right                      | 0    | 0    | 0     | 130  | 24                   |      |
| cSH                               | 826  | 1700 | 1700  | 1700 | 280                  |      |
| Volume to Capacity                | 0.20 | 0.11 | 0.39  | 0.08 | 0.13                 |      |
| Queue Length 95th (ft)            | 18   | 0    | 0     | 0    | 11                   |      |
| Control Delay (s)                 | 10.4 | 0.0  | 0.0   | 0.0  | 19.7                 |      |
| Lane LOS                          | B    |      |       |      | C                    |      |
| Approach Delay (s)                | 4.9  |      | 0.0   |      | 19.7                 |      |
| Approach LOS                      |      |      |       |      | C                    |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 2.1   |      |                      |      |
| Intersection Capacity Utilization |      |      | 52.8% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

HCM Unsignalized Intersection Capacity Analysis  
3: Route 370 & Route 690 NB

Existing Conditions  
PM Peak Hour



| Movement                          | EBL         | EBT         | WBT         | WBR                  | SBL         | SBR         |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Lane Configurations               | ↶           | ↷           | ↷           | ↶                    | ↶           | ↶           |
| Volume (veh/h)                    | 14          | 167         | 325         | 17                   | 196         | 396         |
| Sign Control                      |             | Free        | Free        |                      | Stop        |             |
| Grade                             |             | 0%          | 0%          |                      | 0%          |             |
| Peak Hour Factor                  | 0.77        | 0.77        | 0.93        | 0.93                 | 0.83        | 0.83        |
| Hourly flow rate (vph)            | 18          | 217         | 349         | 18                   | 236         | 477         |
| <b>Pedestrians</b>                |             |             |             |                      |             |             |
| Lane Width (ft)                   |             |             |             |                      |             |             |
| Walking Speed (ft/s)              |             |             |             |                      |             |             |
| Percent Blockage                  |             |             |             |                      |             |             |
| Right turn flare (veh)            |             |             |             |                      |             |             |
| Median type                       | None        |             | None        |                      |             |             |
| Median storage (veh)              |             |             |             |                      |             |             |
| Upstream signal (ft)              |             |             |             |                      |             |             |
| pX, platoon unblocked             |             |             |             |                      |             |             |
| vC, conflicting volume            | 368         |             |             |                      | 603         | 349         |
| vC1, stage 1 conf vol             |             |             |             |                      |             |             |
| vC2, stage 2 conf vol             |             |             |             |                      |             |             |
| vCu, unblocked vol                | 368         |             |             |                      | 603         | 349         |
| tC, single (s)                    | 4.2         |             |             |                      | 6.4         | 6.2         |
| tC, 2 stage (s)                   |             |             |             |                      |             |             |
| tF (s)                            | 2.3         |             |             |                      | 3.5         | 3.3         |
| p0 queue free %                   | 98          |             |             |                      | 48          | 31          |
| cM capacity (veh/h)               | 1164        |             |             |                      | 455         | 694         |
| <b>Direction, Lane #</b>          | <b>EB 1</b> | <b>EB 2</b> | <b>WB 1</b> | <b>WB 2</b>          | <b>SB 1</b> | <b>SB 2</b> |
| Volume Total                      | 18          | 217         | 349         | 18                   | 236         | 477         |
| Volume Left                       | 18          | 0           | 0           | 0                    | 236         | 0           |
| Volume Right                      | 0           | 0           | 0           | 18                   | 0           | 477         |
| cSH                               | 1164        | 1700        | 1700        | 1700                 | 455         | 694         |
| Volume to Capacity                | 0.02        | 0.13        | 0.21        | 0.01                 | 0.52        | 0.69        |
| Queue Length 95th (ft)            | 1           | 0           | 0           | 0                    | 73          | 137         |
| Control Delay (s)                 | 8.1         | 0.0         | 0.0         | 0.0                  | 21.1        | 20.8        |
| Lane LOS                          | A           |             |             |                      | C           | C           |
| Approach Delay (s)                | 0.6         |             | 0.0         |                      | 20.9        |             |
| Approach LOS                      |             |             |             |                      | C           |             |
| <b>Intersection Summary</b>       |             |             |             |                      |             |             |
| Average Delay                     |             |             | 11.4        |                      |             |             |
| Intersection Capacity Utilization |             |             | 48.3%       | ICU Level of Service | A           |             |
| Analysis Period (min)             |             |             | 15          |                      |             |             |

# HCM Signalized Intersection Capacity Analysis

## 4: Route 370/Route 31 & Route 48

Existing Conditions

PM Peak Hour

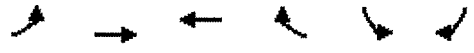


| Movement               | EBL  | EBT  | EBR   | WBL   | WBT  | WBR   | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|-------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations    |      | ↔    | ↗     | ↖     | ↗    | ↖     |      | ↔     | ↗    |      | ↕    |      |
| Volume (vph)           | 4    | 200  | 84    | 519   | 182  | 45    | 80   | 183   | 576  | 1    | 184  | 5    |
| Ideal Flow (vphpl)     | 1900 | 1900 | 1900  | 1900  | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 | 1900 | 1900 |
| Lane Width             | 12   | 11   | 10    | 12    | 11   | 13    | 12   | 12    | 13   | 12   | 16   | 12   |
| Total Lost time (s)    |      | 5.0  | 5.0   | 5.0   | 5.0  |       |      | 5.5   | 5.5  |      | 5.5  |      |
| Lane Util. Factor      |      | 1.00 | 1.00  | 1.00  | 1.00 |       |      | 1.00  | 1.00 |      | 1.00 |      |
| Frbp, ped/bikes        |      | 1.00 | 0.96  | 1.00  | 0.99 |       |      | 1.00  | 1.00 |      | 1.00 |      |
| Flpb, ped/bikes        |      | 1.00 | 1.00  | 1.00  | 1.00 |       |      | 1.00  | 1.00 |      | 1.00 |      |
| Frt                    |      | 1.00 | 0.85  | 1.00  | 0.97 |       |      | 1.00  | 0.85 |      | 1.00 |      |
| Flt Protected          |      | 1.00 | 1.00  | 0.95  | 1.00 |       |      | 0.99  | 1.00 |      | 1.00 |      |
| Satd. Flow (prot)      |      | 1799 | 1307  | 1801  | 1742 |       |      | 1850  | 1652 |      | 1911 |      |
| Flt Permitted          |      | 0.99 | 1.00  | 0.33  | 1.00 |       |      | 0.79  | 1.00 |      | 1.00 |      |
| Satd. Flow (perm)      |      | 1789 | 1307  | 618   | 1742 |       |      | 1488  | 1652 |      | 1909 |      |
| Peak-hour factor, PHF  | 0.91 | 0.91 | 0.91  | 0.93  | 0.93 | 0.93  | 0.94 | 0.94  | 0.94 | 0.82 | 0.82 | 0.82 |
| Adj. Flow (vph)        | 4    | 220  | 92    | 558   | 196  | 48    | 85   | 195   | 613  | 1    | 224  | 6    |
| RTOR Reduction (vph)   | 0    | 0    | 0     | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0    | 0    |
| Lane Group Flow (vph)  | 0    | 224  | 92    | 558   | 244  | 0     | 0    | 280   | 613  | 0    | 231  | 0    |
| Confl. Peds. (#/hr)    | 6    |      | 8     | 6     |      | 8     | 6    |       | 11   | 11   |      | 6    |
| Heavy Vehicles (%)     | 0%   | 2%   | 0%    | 0%    | 2%   | 0%    | 1%   | 1%    | 1%   | 0%   | 1%   | 0%   |
| Parking (#/hr)         |      |      | 0     |       |      |       |      |       |      |      |      | 0    |
| Turn Type              | Perm |      | Perm  | pm+pt |      | pm+pt |      | pt+ov | Perm |      |      |      |
| Protected Phases       |      | 2    |       | 1     | 6    |       | 4    | 4     | 1    |      |      | 8    |
| Permitted Phases       | 2    |      | 2     | 6     |      | 4     |      |       |      | 8    |      |      |
| Actuated Green, G (s)  |      | 16.2 | 16.2  | 49.5  | 49.5 |       |      | 26.8  | 60.6 |      |      | 26.8 |
| Effective Green, g (s) |      | 16.2 | 16.2  | 49.5  | 49.5 |       |      | 26.8  | 60.6 |      |      | 26.8 |
| Actuated g/C Ratio     |      | 0.19 | 0.19  | 0.57  | 0.57 |       |      | 0.31  | 0.70 |      |      | 0.31 |
| Clearance Time (s)     |      | 5.0  | 5.0   | 5.0   | 5.0  |       |      | 5.5   |      |      |      | 5.5  |
| Vehicle Extension (s)  |      | 3.0  | 3.0   | 3.0   | 3.0  |       |      | 3.0   |      |      |      | 3.0  |
| Lane Grp Cap (vph)     |      | 334  | 244   | 738   | 993  |       |      | 459   | 1153 |      |      | 589  |
| v/s Ratio Prot         |      |      |       | c0.25 | 0.14 |       |      |       | 0.37 |      |      |      |
| v/s Ratio Perm         | 0.13 | 0.07 | c0.18 |       |      |       |      | c0.19 |      |      |      | 0.12 |
| v/c Ratio              | 0.67 | 0.38 | 0.76  | 0.25  |      |       |      | 0.61  | 0.53 |      |      | 0.39 |
| Uniform Delay, d1      |      | 32.8 | 30.9  | 12.7  | 9.3  |       |      | 25.5  | 6.3  |      |      | 23.6 |
| Progression Factor     |      | 1.00 | 1.00  | 1.00  | 1.00 |       |      | 1.00  | 1.00 |      |      | 1.00 |
| Incremental Delay, d2  |      | 5.2  | 1.0   | 4.4   | 0.1  |       |      | 2.4   | 0.5  |      |      | 0.4  |
| Delay (s)              |      | 38.0 | 31.9  | 17.2  | 9.5  |       |      | 27.9  | 6.8  |      |      | 24.0 |
| Level of Service       |      | D    | C     | B     | A    |       |      | C     | A    |      |      | C    |
| Approach Delay (s)     |      | 36.2 |       |       | 14.8 |       |      | 13.4  |      |      |      | 24.0 |
| Approach LOS           |      | D    |       |       | B    |       |      | B     |      |      |      | C    |

| Intersection Summary              |       |                      |      |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay         | 18.2  | HCM Level of Service | B    |
| HCM Volume to Capacity ratio      | 0.69  |                      |      |
| Actuated Cycle Length (s)         | 86.8  | Sum of lost time (s) | 10.5 |
| Intersection Capacity Utilization | 85.9% | ICU Level of Service | E    |
| Analysis Period (min)             | 15    |                      |      |
| c Critical Lane Group             |       |                      |      |

HCM Signalized Intersection Capacity Analysis  
5: Route 370 & Route 631

Existing Conditions  
PM Peak Hour



| Movement                          | EBL  | EBT  | WBT   | WBR   | SBL                  | SBR  |
|-----------------------------------|------|------|-------|-------|----------------------|------|
| Lane Configurations               | ←    | →    | ←     | →     | ←                    | →    |
| Volume (vph)                      | 26   | 297  | 343   | 99    | 73                   | 14   |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900  | 1900                 | 1900 |
| Lane Width                        | 12   | 12   | 10    | 12    | 12                   | 12   |
| Total Lost time (s)               | 6.5  | 6.5  | 6.5   | 6.0   | 6.0                  | 6.0  |
| Lane Util. Factor                 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                 | 1.00 |
| Fr <sub>t</sub>                   | 1.00 | 1.00 | 1.00  | 0.85  | 1.00                 | 0.85 |
| Fl <sub>t</sub> Protected         | 0.95 | 1.00 | 1.00  | 1.00  | 0.95                 | 1.00 |
| Satd. Flow (prot)                 | 1736 | 1881 | 1756  | 1583  | 1787                 | 1615 |
| Fl <sub>t</sub> Permitted         | 0.53 | 1.00 | 1.00  | 1.00  | 0.95                 | 1.00 |
| Satd. Flow (perm)                 | 971  | 1881 | 1756  | 1583  | 1787                 | 1615 |
| Peak-hour factor, PHF             | 0.78 | 0.78 | 0.88  | 0.88  | 0.99                 | 0.99 |
| Adj. Flow (vph)                   | 33   | 381  | 390   | 112   | 74                   | 14   |
| RTOR Reduction (vph)              | 0    | 0    | 0     | 0     | 0                    | 12   |
| Lane Group Flow (vph)             | 33   | 381  | 390   | 112   | 74                   | 2    |
| Heavy Vehicles (%)                | 4%   | 1%   | 1%    | 2%    | 1%                   | 0%   |
| Turn Type                         | Perm |      |       | pm+ov |                      | Perm |
| Protected Phases                  |      | 6    | 2     | 4     | 4                    |      |
| Permitted Phases                  | 6    |      |       | 2     |                      | 4    |
| Actuated Green, G (s)             | 13.0 | 13.0 | 13.0  | 17.6  | 4.6                  | 4.6  |
| Effective Green, g (s)            | 13.0 | 13.0 | 13.0  | 17.6  | 4.6                  | 4.6  |
| Actuated g/C Ratio                | 0.43 | 0.43 | 0.43  | 0.58  | 0.15                 | 0.15 |
| Clearance Time (s)                | 6.5  | 6.5  | 6.5   | 6.0   | 6.0                  | 6.0  |
| Vehicle Extension (s)             | 6.0  | 6.0  | 6.0   | 2.0   | 2.0                  | 2.0  |
| Lane Grp Cap (vph)                | 419  | 812  | 758   | 1241  | 273                  | 247  |
| v/s Ratio Prot                    |      | 0.20 | c0.22 | 0.01  | c0.04                |      |
| v/s Ratio Perm                    | 0.03 |      |       | 0.06  |                      | 0.00 |
| v/c Ratio                         | 0.08 | 0.47 | 0.51  | 0.09  | 0.27                 | 0.01 |
| Uniform Delay, d1                 | 5.0  | 6.1  | 6.2   | 2.7   | 11.3                 | 10.8 |
| Progression Factor                | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                 | 1.00 |
| Incremental Delay, d2             | 0.2  | 1.2  | 1.6   | 0.0   | 0.2                  | 0.0  |
| Delay (s)                         | 5.3  | 7.3  | 7.8   | 2.8   | 11.5                 | 10.8 |
| Level of Service                  | A    | A    | A     | A     | B                    | B    |
| Approach Delay (s)                |      | 7.1  | 6.7   |       | 11.4                 |      |
| Approach LOS                      |      | A    | A     |       | B                    |      |
| <b>Intersection Summary</b>       |      |      |       |       |                      |      |
| HCM Average Control Delay         |      |      | 7.3   |       | HCM Level of Service | A    |
| HCM Volume to Capacity ratio      |      |      | 0.45  |       |                      |      |
| Actuated Cycle Length (s)         |      |      | 30.1  |       | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization |      |      | 37.0% |       | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |       |                      |      |
| c Critical Lane Group             |      |      |       |       |                      |      |

# Memorandum

**TO:** Town of Lysander Comprehensive Plan Update Committee

**FROM:** Meghan Vitale, SMTC

**DATE:** November 7, 2014

**RE:** Future conditions assessment (Technical Memorandum #4)

~~~~~

The SMTC has reviewed the outputs from our travel demand model for the anticipated 2050 Future Base conditions and an alternative that includes some intersection modifications within the Town of Lysander. This memo summarizes the work conducted and our findings.

Anticipated future build scenario – 2050 Future Base conditions

The travel demand model uses the number of households and the number of jobs within a given Transportation Analysis Zone (TAZ) as the primary inputs to determine future traffic volumes on road segments. (TAZs are geographic units within the travel demand model, often similar to a Census Tract, that are assigned certain characteristics such as a number of households and a number of jobs.) The SMTC relied upon published data sources such as the decennial Census for the household and employment inputs to the 2014 Existing Conditions model. SMTC staff then used projections from a variety of data sources, as well as discussions with municipal economic development and planning staff, to arrive at the 2050 Future Base household and employment projections. SMTC staff and members of the Town of Lysander Comprehensive Plan Update Committee reviewed the 2050 Future Base household and employment growth assumptions within the SMTC’s travel demand model prior to beginning this work, and SMTC made some adjustments to previous assumptions based on input from the Committee.

Table 1 shows the total current and anticipated future household and employment data for the Town of Lysander, as included in the SMTC’s travel demand model. Figure 1 shows the households data and Figure 2 shows the employment data for zones within the town.

Table 1: Household and employment inputs to SMTC travel demand model, Town of Lysander

	2014	2050	Change	Percent change
Households	8,551	10,472	1,921	22 %
Employment (jobs)	5,918	8,198	2,280	39 %

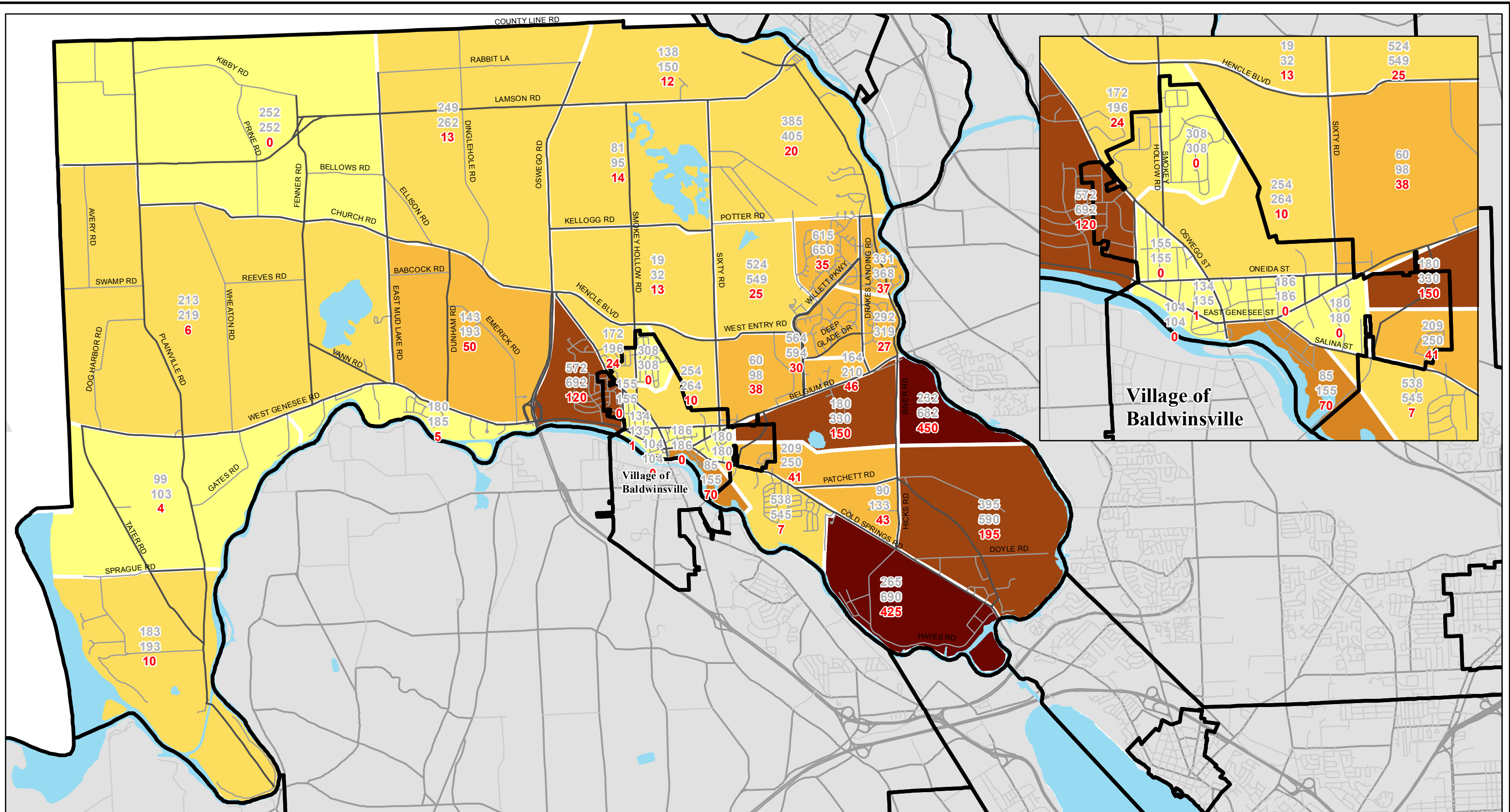


Figure 1
Town of Lysander
Change in Total Households (2014-2050)

Lysander Total Households	
2014 -	8,551
2050 -	10,472
Change -	1,921

- 2014 Total Households
 ## - 2050 Total Households
 ## - Change in Total Households

Change in Households (2014-2050)

0 - 5
6 - 25
26 - 50
51 - 100
101 - 200
201 +



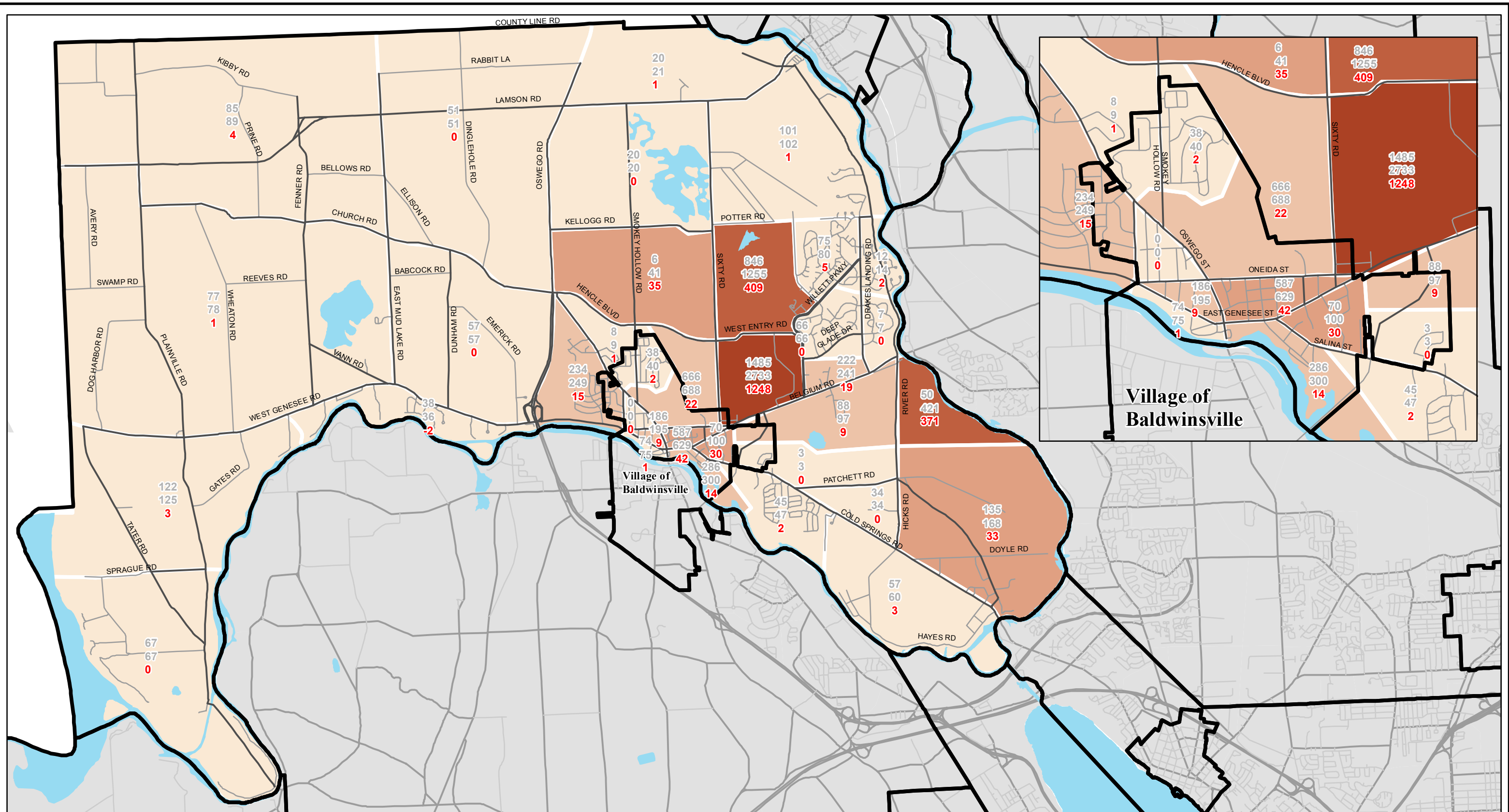
100 Clinton Square
 126 North Salina St, Suite 100
 Syracuse, NY 13202
 (315) 422-5716
 Fax: (315) 422-7753
 www.smtcny.org



0 0.5 1 2 Miles

Data Sources: SMTC, NYSDOT, 2014
 Prepared by SMTC, 10/2014

This map is for presentation purposes only.
 The SMTC does not guarantee the accuracy or completeness of this map.



100 Clinton Square
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0 0.5 1 2 Miles

Data Sources: SMTC, NYSDOT, 2014
 Prepared by SMTC, 10/2014

Figure 2
Town of Lysander
Change in Total Jobs (2014-2050)

This map is for presentation purposes only.
 The SMTC does not guarantee the accuracy or completeness of this map.

Lysander Total Jobs	
2014 -	5,918
2050 -	8,198
Change -	2,280

- 2014 Total Jobs
 ## - 2050 Total Jobs
 ## - Change in Total Jobs

Change in Jobs (2014-2050)	
Color	Range
Lightest Brown	-5 - 5
Light Brown	6 - 25
Medium Brown	26 - 50
Dark Brown	51 - 200
Very Dark Brown	201 - 500
Darkest Brown	501 +

The 2050 Future Base model assumes a total of 1,921 new households, or 22 percent growth, and 2,280 new jobs, or 39 percent growth, from current conditions in the town. The Town of Lysander is anticipated to far outpace Onondaga County as a whole in both household and employment growth. The SMTC model includes a 7 percent increase in total households and a 13 percent increase in total jobs in Onondaga County between 2014 and 2050.

The growth in the Town of Lysander is limited to a few areas of the town. As shown by Figure 1, the majority of the household growth is anticipated in the Cold Springs Peninsula area; the zones south of Route 31 account for 72 percent of the town's total new households. Employment growth is concentrated in three zones: east of River Road just south of Route 31 (attributable to the jobs anticipated at the new YMCA) and the two zones north of Route 31 and just east of Sixty Road that comprise the Radisson Corporate Park. Taken together, these three zones account for 89 percent of the total new jobs anticipated in the town by 2050.

The 2050 Future Base model does not include any transportation network changes from the current conditions. In other words, the Future Base model assumes that the road network in 2050 will physically be the same as it is today. This assumption was based on input from the SMTC's member agencies while developing the overall regional travel demand model.

2050 Future Base scenario operations assessment

SMTC staff reviewed the volume-to-capacity (V/C) ratios from the 2050 Future Base travel demand model for road segments and intersections throughout the Town of Lysander for the morning and evening peak hours. (See Technical Memorandum #3 for an explanation of the V/C ratio.)

Figures 3 and 4 show the V/C ratio for model links (segments) and nodes (intersections) within the Cold Springs Peninsula area of the Town of Lysander and part of the adjoining towns for the AM and PM peak hours, respectively. Both figures show the 2050 Future Base conditions based on the SMTC travel demand model outputs. (Segments and nodes for the northern and western sections of the town were found to have consistently low V/C ratios and, therefore, are not shown on Figures 3 and 4.)

Two intersections within the town are anticipated to operate at a V/C ratio between 0.70 and 0.90 (indicating some congested operations) under Future Base conditions. These intersections are: Route 31 (East Genesee Street)/Route 370 (Salina Street) and Route 31 (Genesee Street)/Route 48 (Syracuse Street). No intersections within the town are anticipated to operate with a V/C ratio above 0.90. The Route 370/John Glenn Boulevard intersection in the Town of Salina and the Route 48 (Syracuse Street)/Downer Street intersection in the Town of Van Buren are also anticipated to operate with a V/C ratio between 0.70 and 0.90.

Most of modeled road segments show very good Future Base conditions (V/C ratios less than 0.43, or likely a level of service [LOS] A or B). There are a few segments that are anticipated to operate with V/C ratios between 0.43 and 0.82, indicating LOS C or D conditions (generally acceptable conditions, with some minor congestion). These segments include Route 31 from

Route 48 to just east of Willett Parkway, Route 370 from Hicks Road to River Road, and Route 48 from Route 31 south to Route 690 (in the Town of Van Buren). The only road segment that is anticipated to operate near capacity (LOS E or F) is Route 370 between River Road and John Glenn Boulevard.

2050 Future Alternative conditions

SMTC staff discussed with the Committee members the options for modeling alternative scenarios for the future conditions. Modeled alternatives may include changes in the amount of household or employment growth anticipated for the year 2050, changes to the development pattern at a town-wide level (i.e. simply “clustering” development within a single TAZ cannot be reflected in the travel demand model), or modifications to the transportation network.

The committee members did not feel that changes to the amount of development (households and jobs) or the town-wide pattern of development were warranted based on the relatively good traffic operations indicated by the 2050 Future Base model results. The 2050 Future Base scenario was considered by the committee to represent the upper limit of expected development for the town. The committee members requested that the SMTC model a single future alternative scenario consisting of the 2050 Future Base household and employment assumptions along with the following transportation network changes:

- Turn-lane additions at Route 370/John Glenn Boulevard (as determined by NYSDOT and included in the SMTC’s current Transportation Improvement Program).
- Addition of a traffic signal at Route 370/Hicks Road/Hayes Road
- Addition of a traffic signal at Route 370/River Road
- Addition of a traffic signal or installation of a roundabout at Hicks Road/Patchett Road/River Road

For modeling purposes, the signal at Route 370/Hicks Road was assumed to also include left-turn lanes on all approaches, the signal at Route 370/River Road was assumed to include left-turn lanes only on Route 370, and the Hicks Road/Patchett Road/River Road intersection was assumed to be signalized with left-turn lanes on the major approaches. Since these changes reflect capacity increases, it can be assumed that this scenario would also approximate the results of a roundabout at Hicks Road/Patchett Road/River Road. More detailed analysis, including a microsimulation of a traffic signal and/or a roundabout, would be necessary before completing any future projects.

Figures 5 and 6 show the modeling results for the Cold Springs Peninsula area for the AM and PM peak hours, respectively, under the 2050 Future Alternative conditions. Overall, the results are very similar to the 2050 Future Base conditions model results. There are a few changes worth noting, including:

- Reduced V/C ratio (i.e. “better” operations with less delay) at the Route 370/John Glenn Boulevard intersection
- Reduced V/C ratios along Route 370 from Hicks Road to John Glenn Boulevard

- Very low V/C ratios at the Route 370/Hicks Road and Route 370/River Road intersections with signalization.

Both the Route 370/Hicks Road/Hayes Road and Route 370/River Road intersections were previously examined as part of the *Route 370 Corridor Management Plan* by Barton & Loguidice in 2008 and as part of the Timber Banks development traffic assessment.

Regarding Route 370/Hicks Road/Hayes Road, the *Route 370 Corridor Management Plan* stated that “the installation of a traffic signal at this location would help to optimize movement through the intersection, reduce delays, promote use of the controlled intersection instead of the uncontrolled River Road access, and benefit future potential development on Hayes Road.” However, this study goes on to state that the NYSDOT had studied the intersection and concluded that a traffic signal was not warranted under existing conditions. In the “Timber Banks with YMCA Traffic Assessment – Response to NYSDOT Comments” dated March 2013, GTS Consulting indicated that, based on discussions with NYSDOT, an updated signal warrant analysis will be completed once the Timber Banks development reaches the reduced initial build-out levels. The *Route 370 Corridor Management Plan* estimated the installation of a traffic signal and southbound left turn lane would cost in excess of \$150,000 (in 2008 dollars).

The Route 370 Corridor Management Plan recommended periodic re-evaluation of the Route 370/River Road location for signalization. Installation of a traffic signal and associated turn lane additions were estimated to cost in excess of \$250,000 (in 2008 dollars). The Timber Banks assessment also suggested reviewing this location again once the development reaches reduced initial build-out levels.

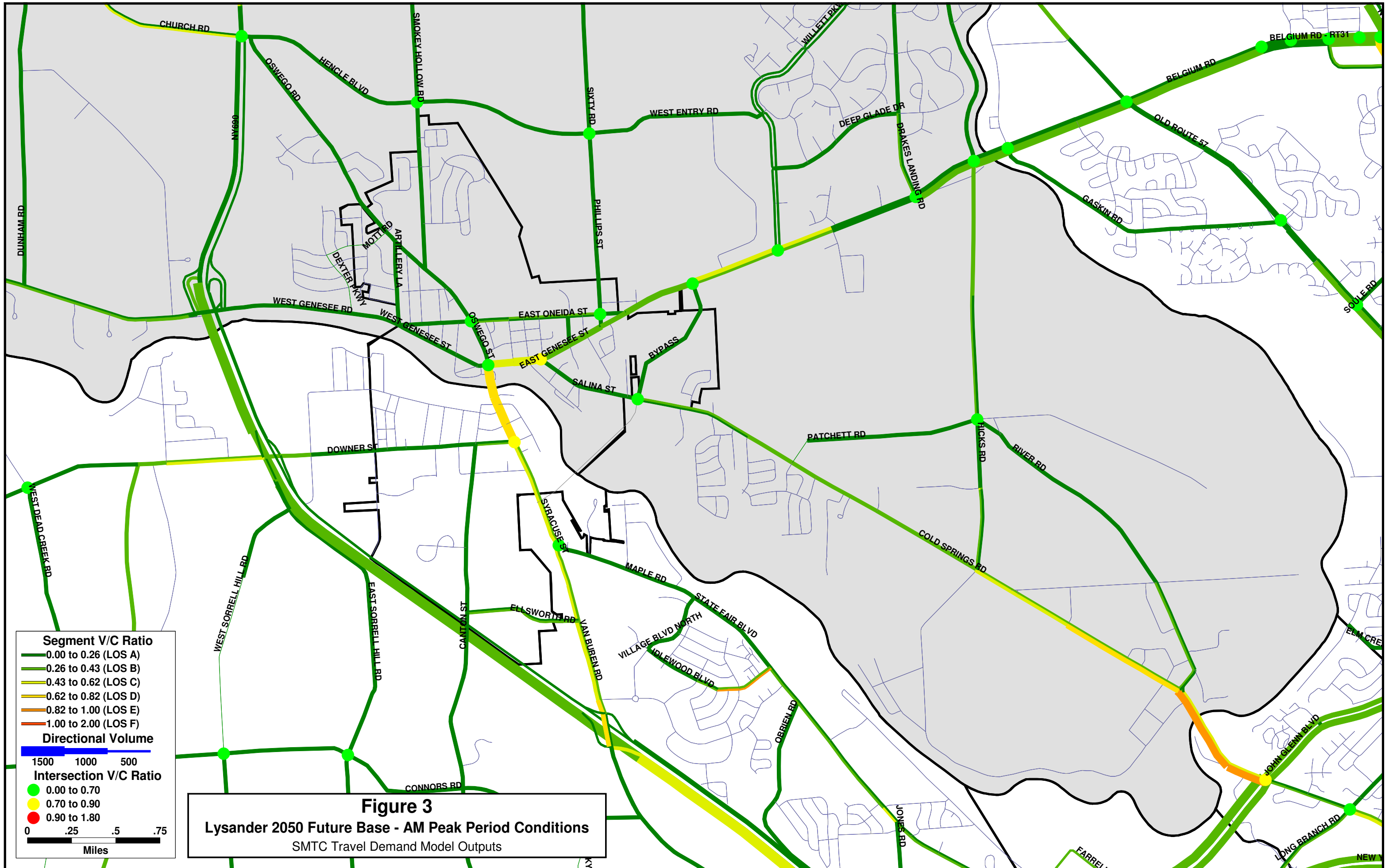


Figure 3
Lysander 2050 Future Base - AM Peak Period Conditions
 SMTC Travel Demand Model Outputs

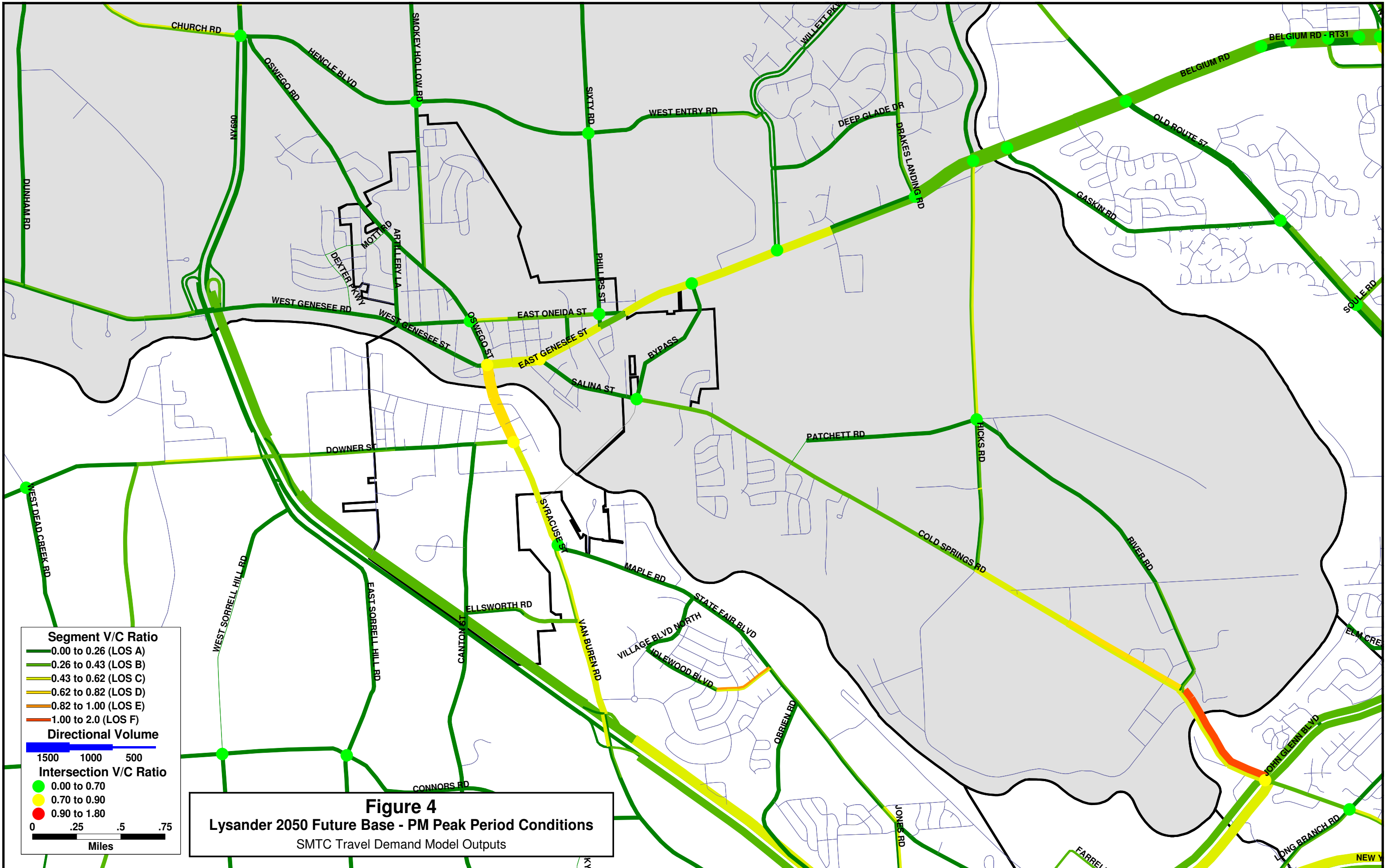


Figure 4
Lysander 2050 Future Base - PM Peak Period Conditions
 SMTc Travel Demand Model Outputs

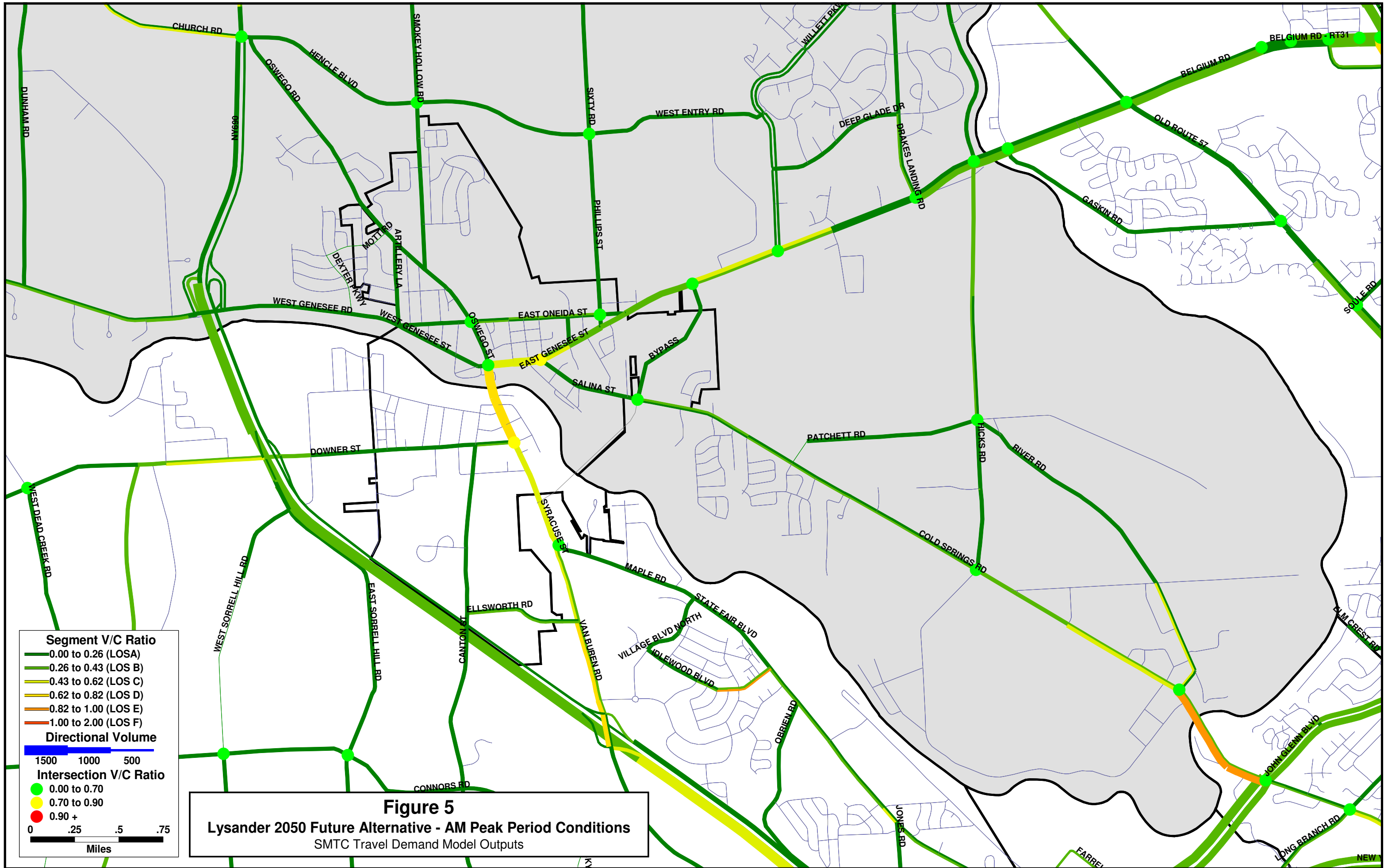


Figure 5
Lysander 2050 Future Alternative - AM Peak Period Conditions
 SMTC Travel Demand Model Outputs

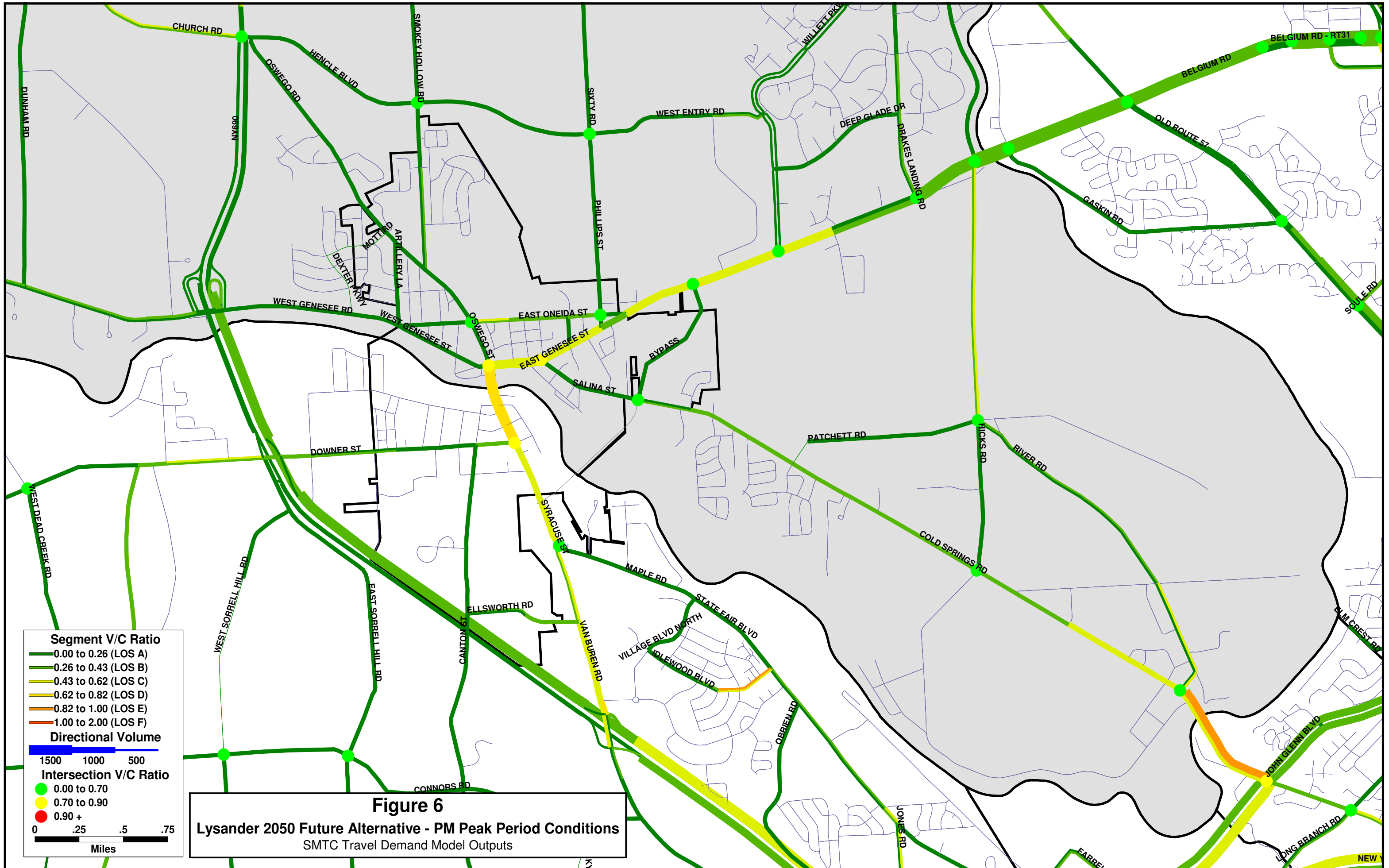


Figure 6
Lysander 2050 Future Alternative - PM Peak Period Conditions
 SMTC Travel Demand Model Outputs

Summary

The SMTC used a travel demand model to assess future travel conditions, as measured by V/C ratios for intersections and road segments, within the Town of Lysander. The 2050 Future Base model included approximately 1,900 new households and nearly 2,300 additional jobs, compared to existing conditions. Nearly 75 percent of the new residential development is anticipated to occur in the Cold Springs Peninsula area. These assumptions were developed in consultation with the Town of Lysander. The 2050 Future Base model did not include any changes to the existing transportation system in the town. The results of the 2050 Future Base modeling indicate that most road segments and intersections in the town will continue to operate well in the future with the assumed household and employment growth. Only two intersections (both within the Village of Baldwinsville) and a few segments of Route 31 and Route 370 are expected to operate with some congestion during the peak hours. The only road segment anticipated to operate near or above capacity is Route 370 between River Road and John Glenn Boulevard during both the AM and PM peak hours.

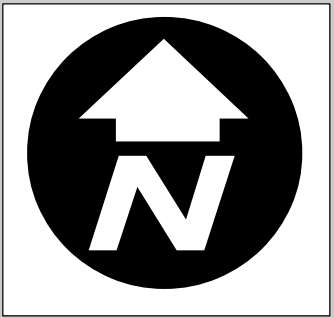
The SMTC also modeled one 2050 Future Alternative scenario for the town, which included signalization of three intersections (Route 370/Hicks Road/Hayes Road, Route 370/River Road, and Hicks Road/Patchett Road/River Road) and turn lane additions at the Route 370/John Glenn Boulevard intersection. No modifications to the anticipated future growth in households or employment were considered in the alternative modeling. The 2050 Future Alternative scenario results were very similar to the 2050 Future Base, with slight improvements in operation on some road segments and very good operations anticipated at the newly signalized intersections.

The turn lane additions at the Route 370/John Glenn Boulevard intersection are included in the SMTC's current Transportation Improvement Program (capital funding program) with the scoping phase of the project slated to begin in Federal Fiscal Year 2014.

The addition of traffic signals on Route 370 at Hicks Road/Hayes Road and at River Road has been considered in previous studies, such as the *Route 370 Corridor Management Plan* and the traffic assessment for the Timber Banks development. Although the modeling conducted by the SMTC suggests that signals at these intersections will operate well and may slightly improve future traffic operations on adjacent road segments, all previous analysis has indicated that the locations do not satisfy signal warrants. The Town of Lysander should continue to coordinate with the NYSDOT to determine the appropriate future configuration of both of these intersections on Route 370. As noted in Technical Memorandum #3, the cost of installing and maintaining traffic signals should be weighed against the likely benefit to all residents and the potential to induce additional demand in the future.

APPENDIX B: MAPS

1. Zoning
2. Residential Year Built
3. Septic Suitability of Soils
4. Commercial and Industrial Sites
5. Wastewater
6. Wastewater Disposal Method
7. Hydrology
8. Watersheds
9. Water Supply
10. Water Service
11. Parks and Recreation
12. Road Functional Class
13. Road Ownership
14. Farmland Soils
15. 2019 & 2022 Existing Traffic Volumes
16. 2022 Changes in Traffic Volumes



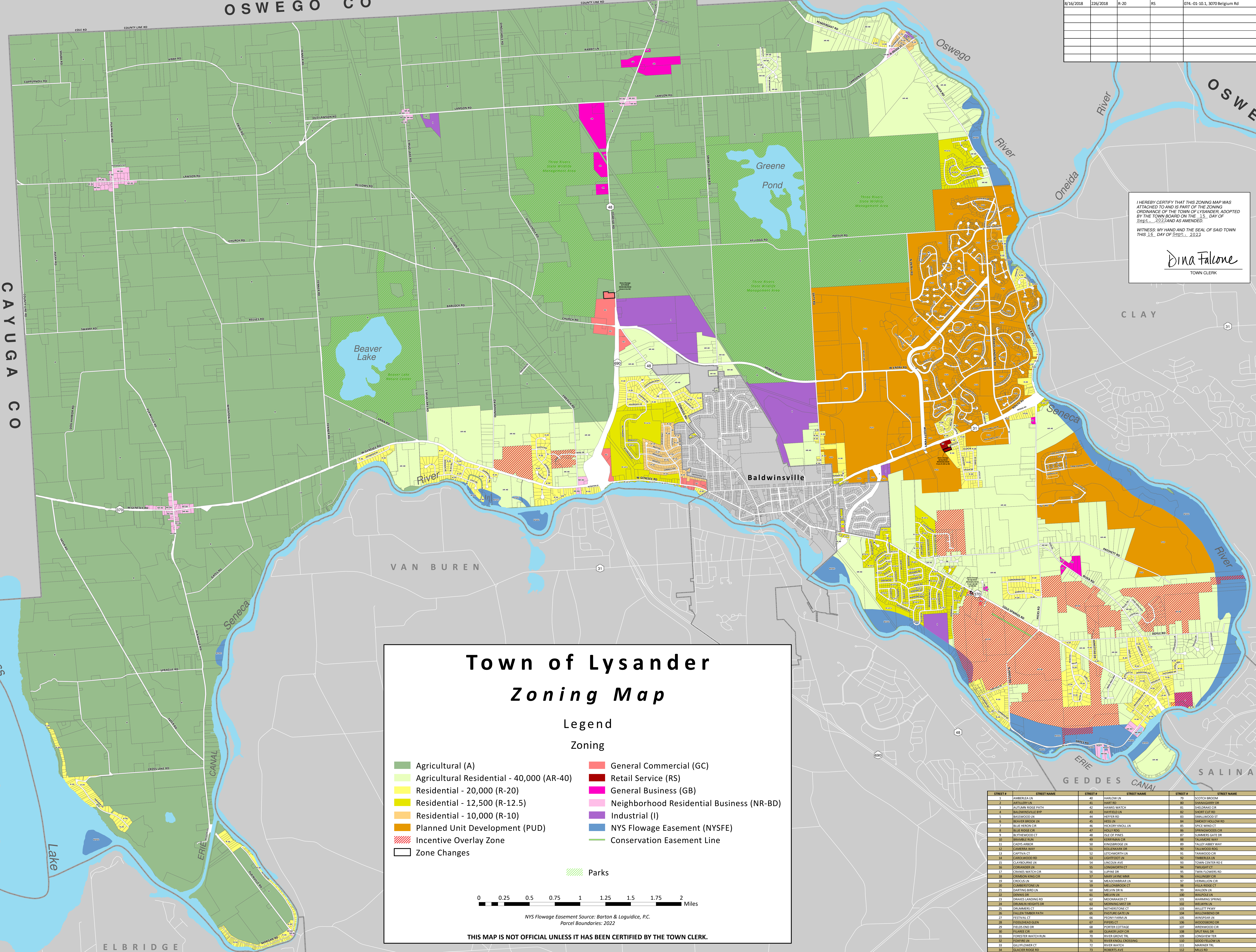
OSWEGO CO

Date	Resolution	Previous Zoning	New Zoning	Property
6/7/2018	148/2018	A	GC	030-03-06.9, 8671 Oswego Rd
8/16/2018	225/2018	AR-40	NR-BD	061-02-24.0, 3160 Cold Springs Rd
8/16/2018	226/2018	R-20	RS	074-01-10.1, 3070 Belgium Rd

I HEREBY CERTIFY THAT THIS ZONING MAP WAS ATTACHED TO AND IS PART OF THE ZONING ORDINANCE OF THE TOWN OF LYSANDER, ADOPTED BY THE TOWN BOARD ON THE 15TH DAY OF SEPT., 2022 AND AS AMENDED.

WITNESS: MY HAND AND THE SEAL OF SAID TOWN THIS 16TH DAY OF SEPT., 2022

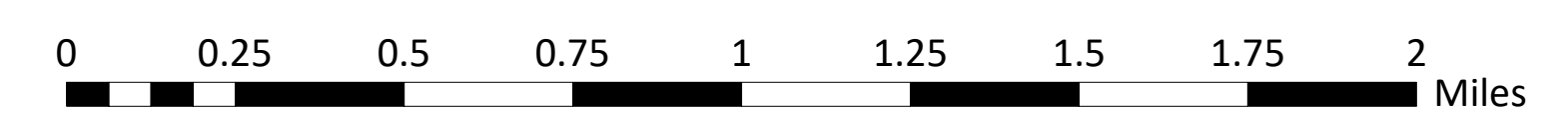
Dina Falcone
TOWN CLERK



Town of Lysander Zoning Map

Legend

- Zoning
- Agricultural (A)
 - Agricultural Residential - 40,000 (AR-40)
 - Residential - 20,000 (R-20)
 - Residential - 12,500 (R-12.5)
 - Residential - 10,000 (R-10)
 - Planned Unit Development (PUD)
 - Incentive Overlay Zone
 - Zone Changes
 - General Commercial (GC)
 - Retail Service (RS)
 - General Business (GB)
 - Neighborhood Residential Business (NR-BD)
 - Industrial (I)
 - NYS Flowage Easement (NYSFE)
 - Conservation Easement Line
 - Parks



NYS Flowage Easement Source: Barton & Loguidice, P.C.
Parcel Boundaries: 2022

THIS MAP IS NOT OFFICIAL UNLESS IT HAS BEEN CERTIFIED BY THE TOWN CLERK.

STREET #	STREET NAME	STREET #	STREET NAME	STREET #	STREET NAME
1	AMBERLEA LN	40	HARLOW LN	79	SCOTCH BROOK
2	ARTISTEUM LN	41	HAWKSWATCH	80	SHERRILL DR
3	AUTUMN RIDGE PATH	42	HAWKSWATCH	81	SHELDRAKE CIR
4	BALDWINVILLE BYP	43	HAWKSWATCH	82	SHREVE DR
5	BASSWOOD LN	44	HAWKSWATCH	83	SMALLWOOD CT
6	BEAVER BROOK LN	45	HAWKSWATCH	84	SMOKEY HOLLOW RD
7	BELLE MEADOW CIR	46	HAWKSWATCH	85	SPEC WOOD CT
8	BELLE RIDGE CIR	47	HAWKSWATCH	86	SPRINGWOOD CIR
9	BELTWOOD CT	48	HAWKSWATCH	87	SUNNYSIDE DR
10	BIRCHWOOD LN	49	HAWKSWATCH	88	TALMADGE WAY
11	BIRCHWOOD LN	50	HAWKSWATCH	89	TALLEY ARBORY WAY
12	BIRCHWOOD LN	51	HAWKSWATCH	90	TALMADGE WAY
13	CAPTIVA CT	52	HAWKSWATCH	91	TANWOOD CIR
14	CHERRYWOOD DR	53	HAWKSWATCH	92	TANWOOD CIR
15	CHERRYWOOD LN	54	HAWKSWATCH	93	TOWN CENTER RD
16	CHERRYWOOD LN	55	HAWKSWATCH	94	TWILIGHT CT
17	CHERRYWOOD LN	56	HAWKSWATCH	95	TOWN CENTER RD
18	CHERRYWOOD LN	57	HAWKSWATCH	96	VALLEYVIEW CIR
19	CHERRYWOOD LN	58	HAWKSWATCH	97	VERMILION CIR
20	CHERRYWOOD LN	59	HAWKSWATCH	98	WALLA WOOD LN
21	CHERRYWOOD LN	60	HAWKSWATCH	99	WALDEN LN
22	CHERRYWOOD LN	61	HAWKSWATCH	100	WALDEN LN
23	CHERRYWOOD LN	62	HAWKSWATCH	101	WARMING SPRING
24	CHERRYWOOD LN	63	HAWKSWATCH	102	WILSON DR
25	CHERRYWOOD LN	64	HAWKSWATCH	103	WILLET PKWY
26	CHERRYWOOD LN	65	HAWKSWATCH	104	WILSON DR
27	CHERRYWOOD LN	66	HAWKSWATCH	105	WILSON DR
28	CHERRYWOOD LN	67	HAWKSWATCH	106	WOODSBORO DR
29	CHERRYWOOD LN	68	HAWKSWATCH	107	WOODSBORO DR
30	CHERRYWOOD LN	69	HAWKSWATCH	108	SPRUE BAY DR
31	CHERRYWOOD LN	70	HAWKSWATCH	109	LONGVIEW TRL
32	CHERRYWOOD LN	71	HAWKSWATCH	110	WALDEN LN
33	CHERRYWOOD LN	72	HAWKSWATCH	111	HAWKSWATCH
34	CHERRYWOOD LN	73	HAWKSWATCH	112	WALDEN LN
35	CHERRYWOOD LN	74	HAWKSWATCH	113	BOGGS RD
36	CHERRYWOOD LN	75	HAWKSWATCH	114	BOGGS RD
37	CHERRYWOOD LN	76	HAWKSWATCH	115	BOGGS RD
38	CHERRYWOOD LN	77	HAWKSWATCH	116	BOGGS RD
39	CHERRYWOOD LN	78	HAWKSWATCH	117	BOGGS RD
40	CHERRYWOOD LN	79	HAWKSWATCH	118	BOGGS RD





OSWEGO CO

CAYUGA CO

OSWEGO CO

CLAY

VAN BUREN

SALINA









GEDDES

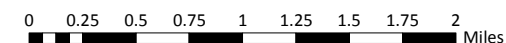
ELBRIDGE

Town of Lysander Comprehensive Land Use Plan RESIDENTIAL YEAR BUILT

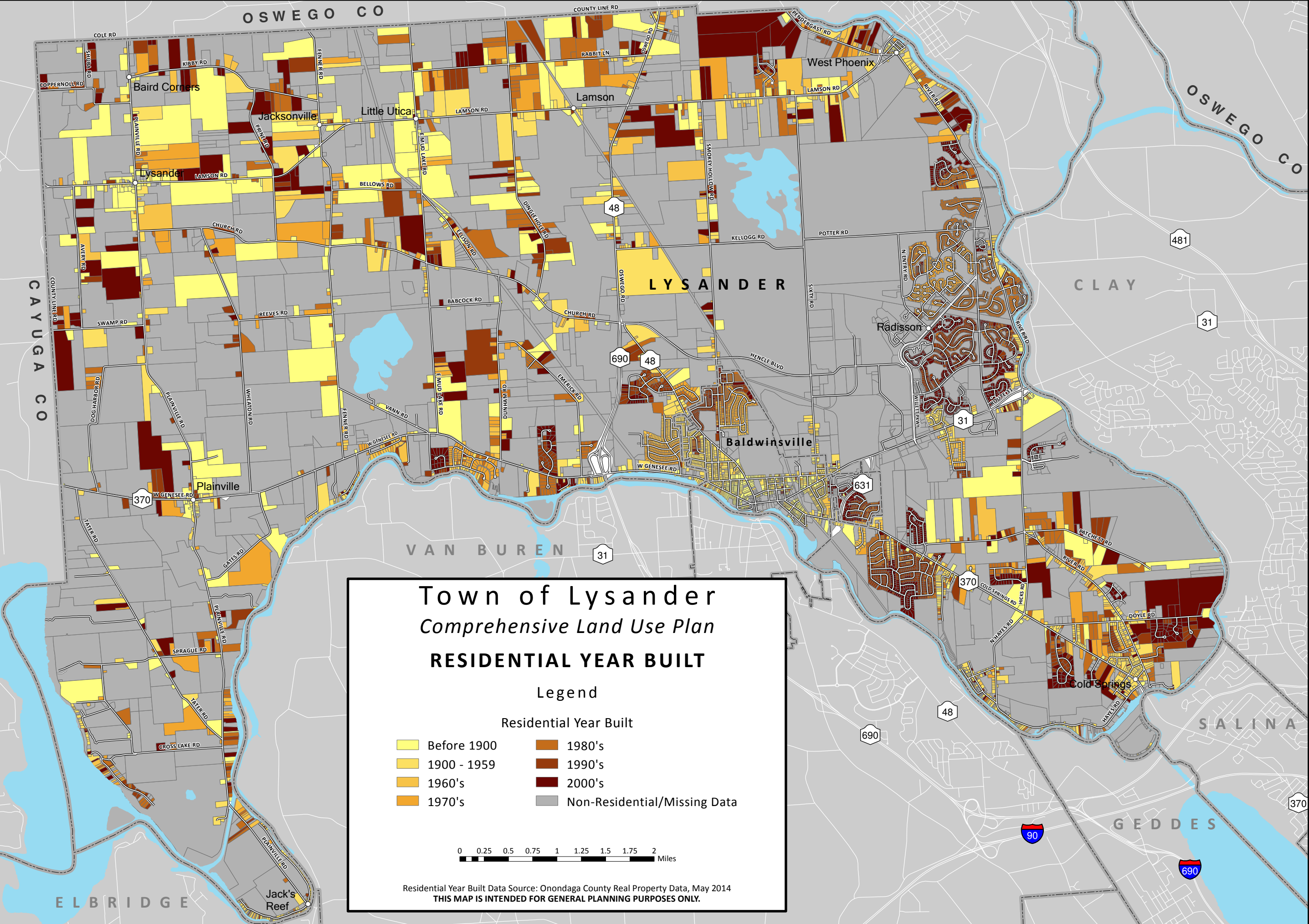
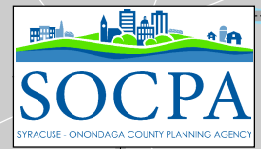
Legend

Residential Year Built

- | | |
|---|--|
|  Before 1900 |  1980's |
|  1900 - 1959 |  1990's |
|  1960's |  2000's |
|  1970's |  Non-Residential/Missing Data |



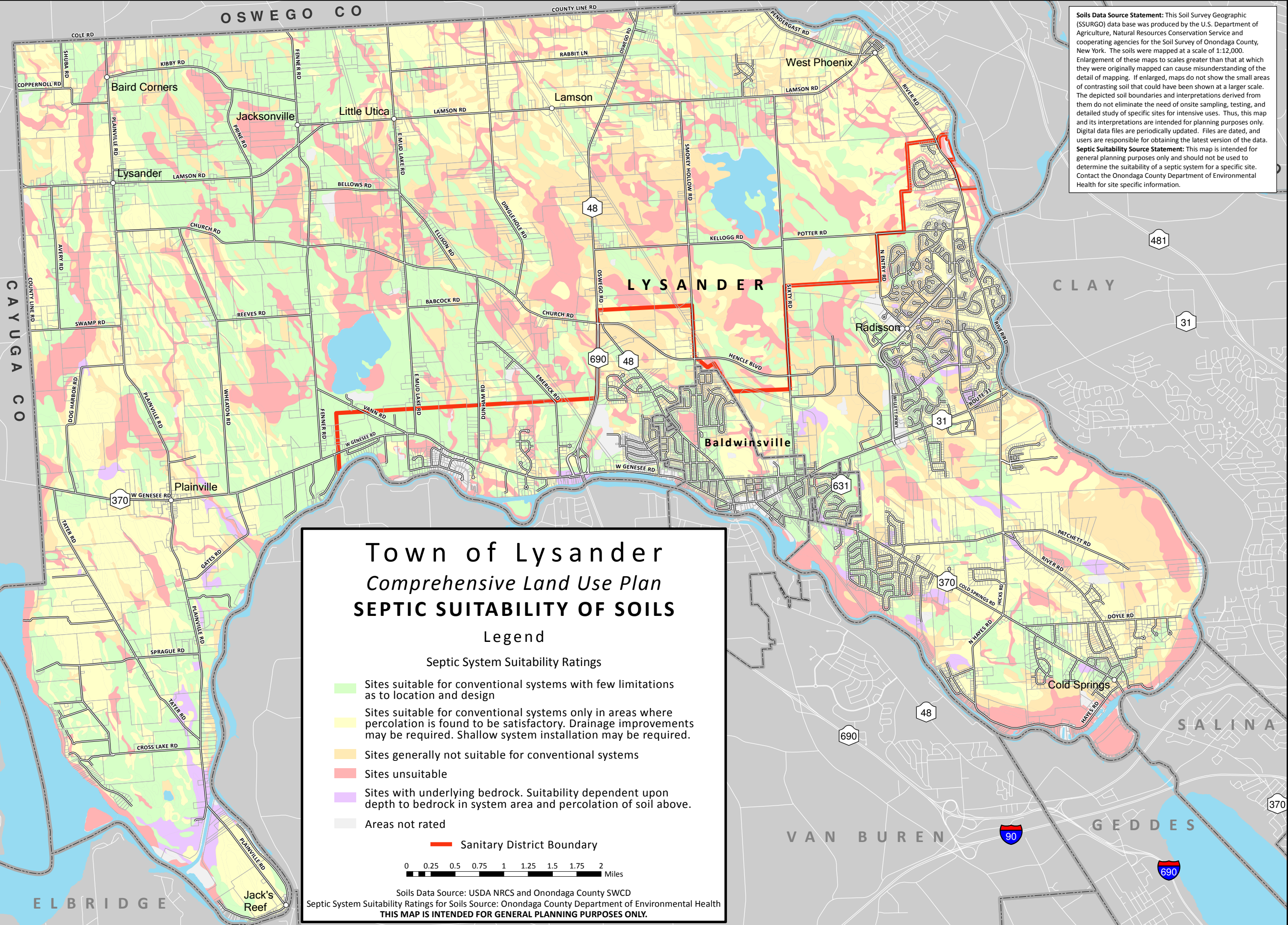
Residential Year Built Data Source: Onondaga County Real Property Data, May 2014
 THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.





Soils Data Source Statement: This Soil Survey Geographic (SSURGO) data base was produced by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies for the Soil Survey of Onondaga County, New York. The soils were mapped at a scale of 1:12,000. Enlargement of these maps to scales greater than that at which they were originally mapped can cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soil that could have been shown at a larger scale. The depicted soil boundaries and interpretations derived from them do not eliminate the need of onsite sampling, testing, and detailed study of specific sites for intensive uses. Thus, this map and its interpretations are intended for planning purposes only. Digital data files are periodically updated. Files are dated, and users are responsible for obtaining the latest version of the data.

Septic Suitability Source Statement: This map is intended for general planning purposes only and should not be used to determine the suitability of a septic system for a specific site. Contact the Onondaga County Department of Environmental Health for site specific information.

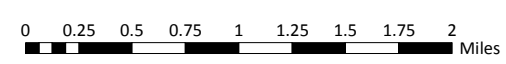


Town of Lysander Comprehensive Land Use Plan SEPTIC SUITABILITY OF SOILS

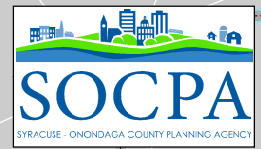
Legend

- Septic System Suitability Ratings**
- Sites suitable for conventional systems with few limitations as to location and design
 - Sites suitable for conventional systems only in areas where percolation is found to be satisfactory. Drainage improvements may be required. Shallow system installation may be required.
 - Sites generally not suitable for conventional systems
 - Sites unsuitable
 - Sites with underlying bedrock. Suitability dependent upon depth to bedrock in system area and percolation of soil above.
 - Areas not rated

— Sanitary District Boundary



Soils Data Source: USDA NRCS and Onondaga County SWCD
 Septic System Suitability Ratings for Soils Source: Onondaga County Department of Environmental Health
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.





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CAYUGA CO

OSWEGO CO

CLAY

VAN BUREN

SALINA

GEDDES

ELBRIDGE

Town of Lysander Comprehensive Land Use Plan COMMERCIAL AND INDUSTRIAL SITES

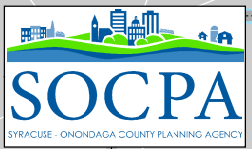
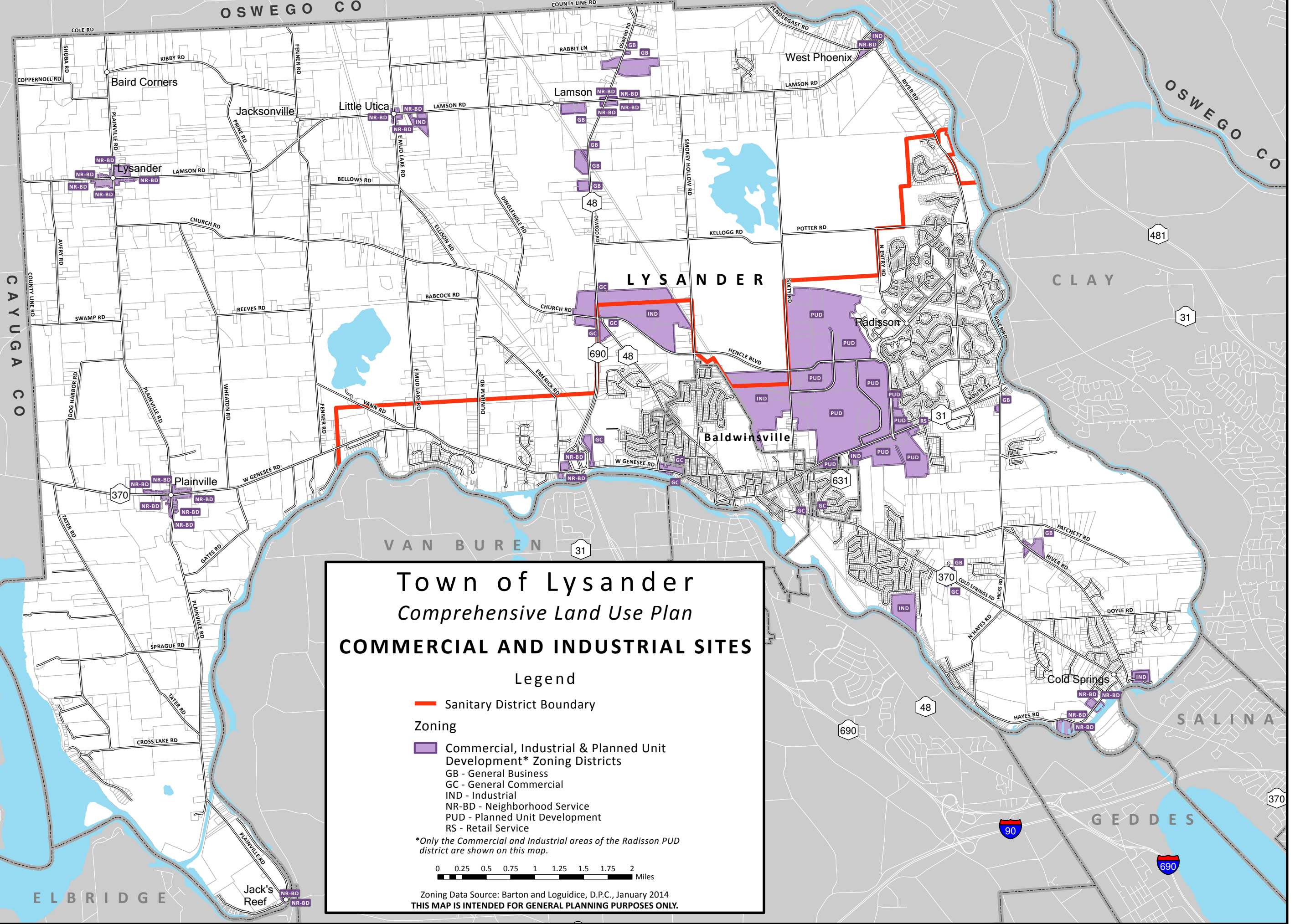
Legend

- Sanitary District Boundary
- Zoning**
- Commercial, Industrial & Planned Unit Development* Zoning Districts
- GB - General Business
- GC - General Commercial
- IND - Industrial
- NR-BD - Neighborhood Service
- PUD - Planned Unit Development
- RS - Retail Service

*Only the Commercial and Industrial areas of the Radisson PUD district are shown on this map.

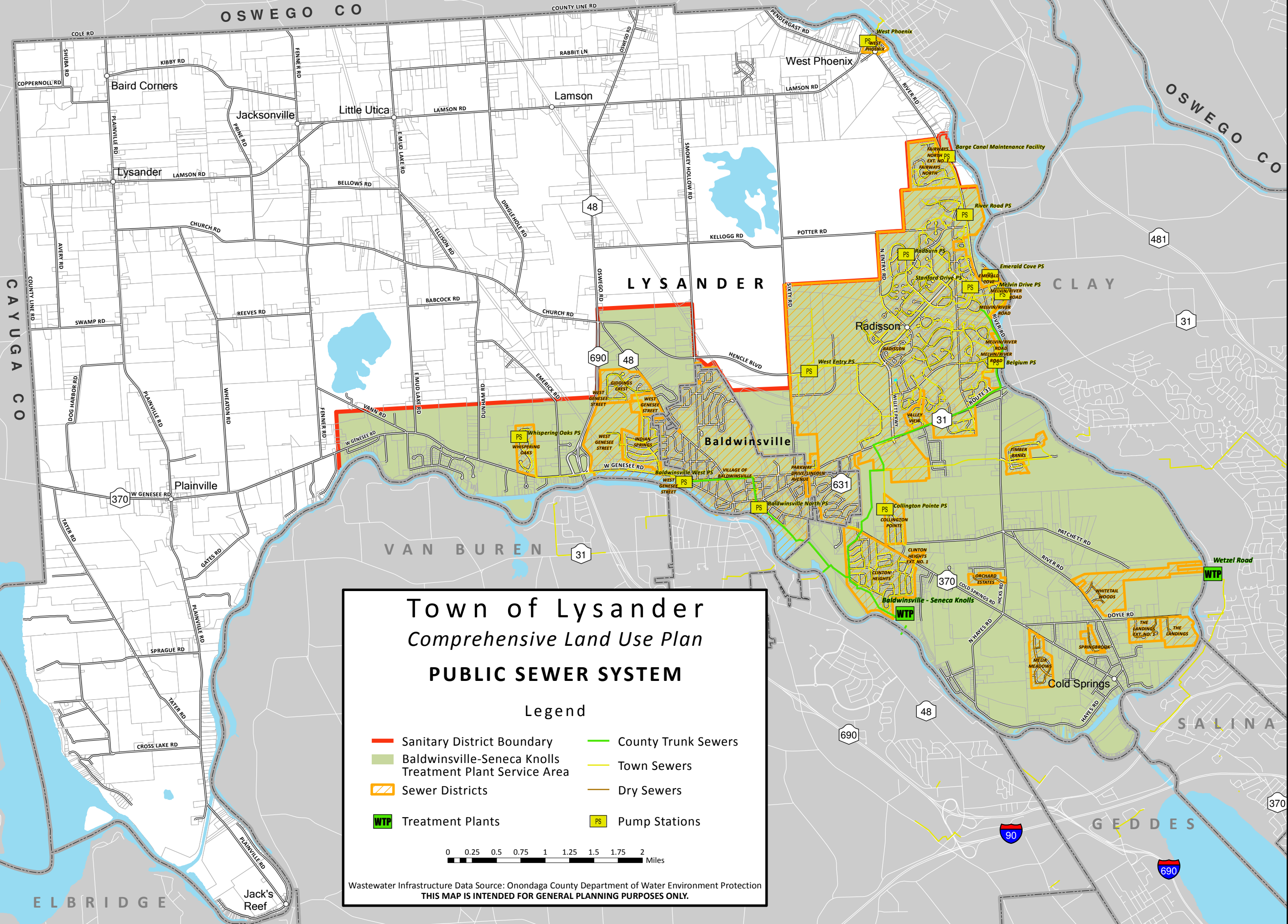
0 0.25 0.5 0.75 1 1.25 1.5 1.75 2 Miles

Zoning Data Source: Barton and Loguidice, D.P.C., January 2014
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.





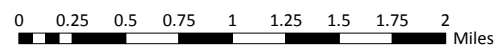
OSWEGO CO



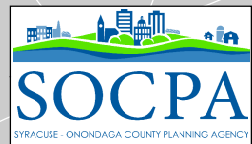
Town of Lysander Comprehensive Land Use Plan PUBLIC SEWER SYSTEM

Legend

- Sanitary District Boundary
- Baldwinsville-Seneca Knolls Treatment Plant Service Area
- Sewer Districts
- Treatment Plants
- County Trunk Sewers
- Town Sewers
- Dry Sewers
- Pump Stations



Wastewater Infrastructure Data Source: Onondaga County Department of Water Environment Protection
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.





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ELBRIDGE

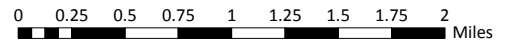
SALINA

GEDDES

Town of Lysander Comprehensive Land Use Plan HYDROLOGY

Legend

- Floodplains
- State Wetlands
- Federal Wetlands
- Flowage Easement
- Perennial Streams
- Intermittent Streams

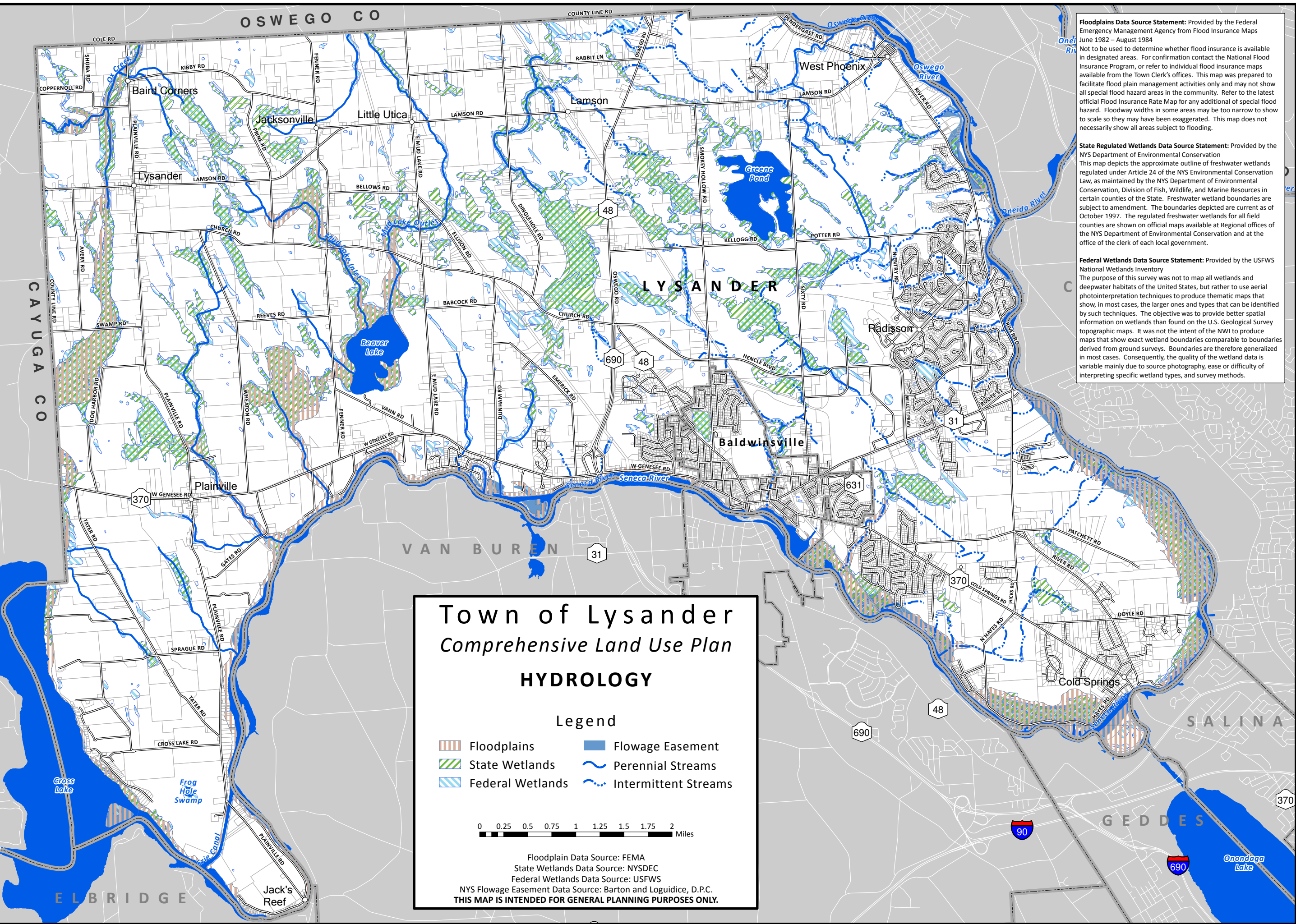
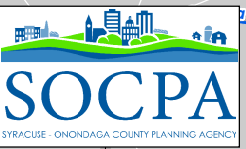


Floodplain Data Source: FEMA
 State Wetlands Data Source: NYSDEC
 Federal Wetlands Data Source: USFWS
 NYS Flowage Easement Data Source: Barton and Loguidice, D.P.C.
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.

Floodplains Data Source Statement: Provided by the Federal Emergency Management Agency from Flood Insurance Maps June 1982 – August 1984
 Not to be used to determine whether flood insurance is available in designated areas. For confirmation contact the National Flood Insurance Program, or refer to individual flood insurance maps available from the Town Clerk's offices. This map was prepared to facilitate flood plain management activities only and may not show all special flood hazard areas in the community. Refer to the latest official Flood Insurance Rate Map for any additional of special hazard. Floodway widths in some areas may be too narrow to show to scale so they may have been exaggerated. This map does not necessarily show all areas subject to flooding.

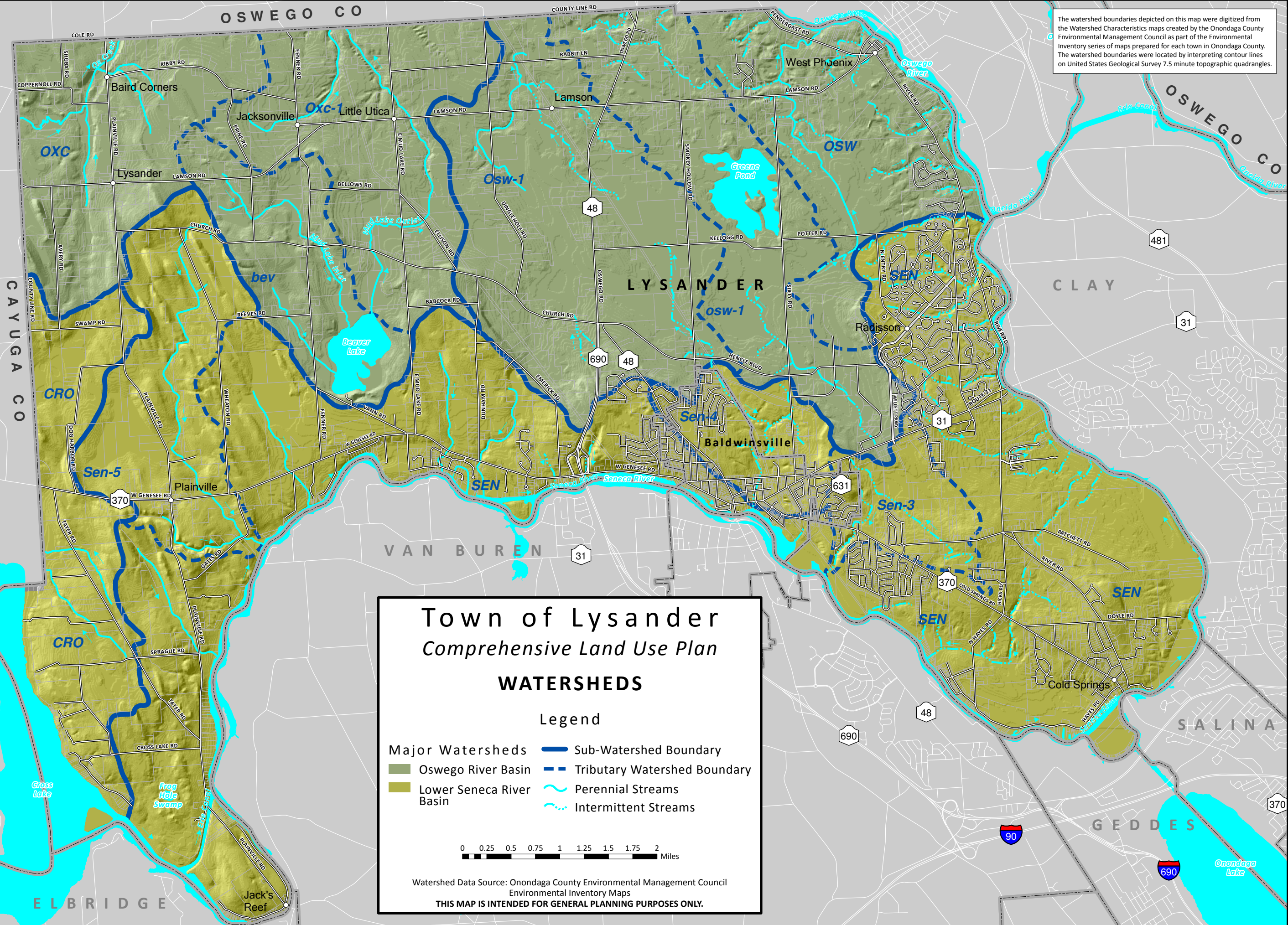
State Regulated Wetlands Data Source Statement: Provided by the NYS Department of Environmental Conservation
 This map depicts the approximate outline of freshwater wetlands regulated under Article 24 of the NYS Environmental Conservation Law, as maintained by the NYS Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources in certain counties of the State. Freshwater wetland boundaries are subject to amendment. The boundaries depicted are current as of October 1997. The regulated freshwater wetlands for all field counties are shown on official maps available at Regional offices of the NYS Department of Environmental Conservation and at the office of the clerk of each local government.

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The watershed boundaries depicted on this map were digitized from the Watershed Characteristics maps created by the Onondaga County Environmental Management Council as part of the Environmental Inventory series of maps prepared for each town in Onondaga County. The watershed boundaries were located by interpreting contour lines on United States Geological Survey 7.5 minute topographic quadrangles.



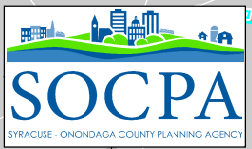
Town of Lysander Comprehensive Land Use Plan WATERSHEDS

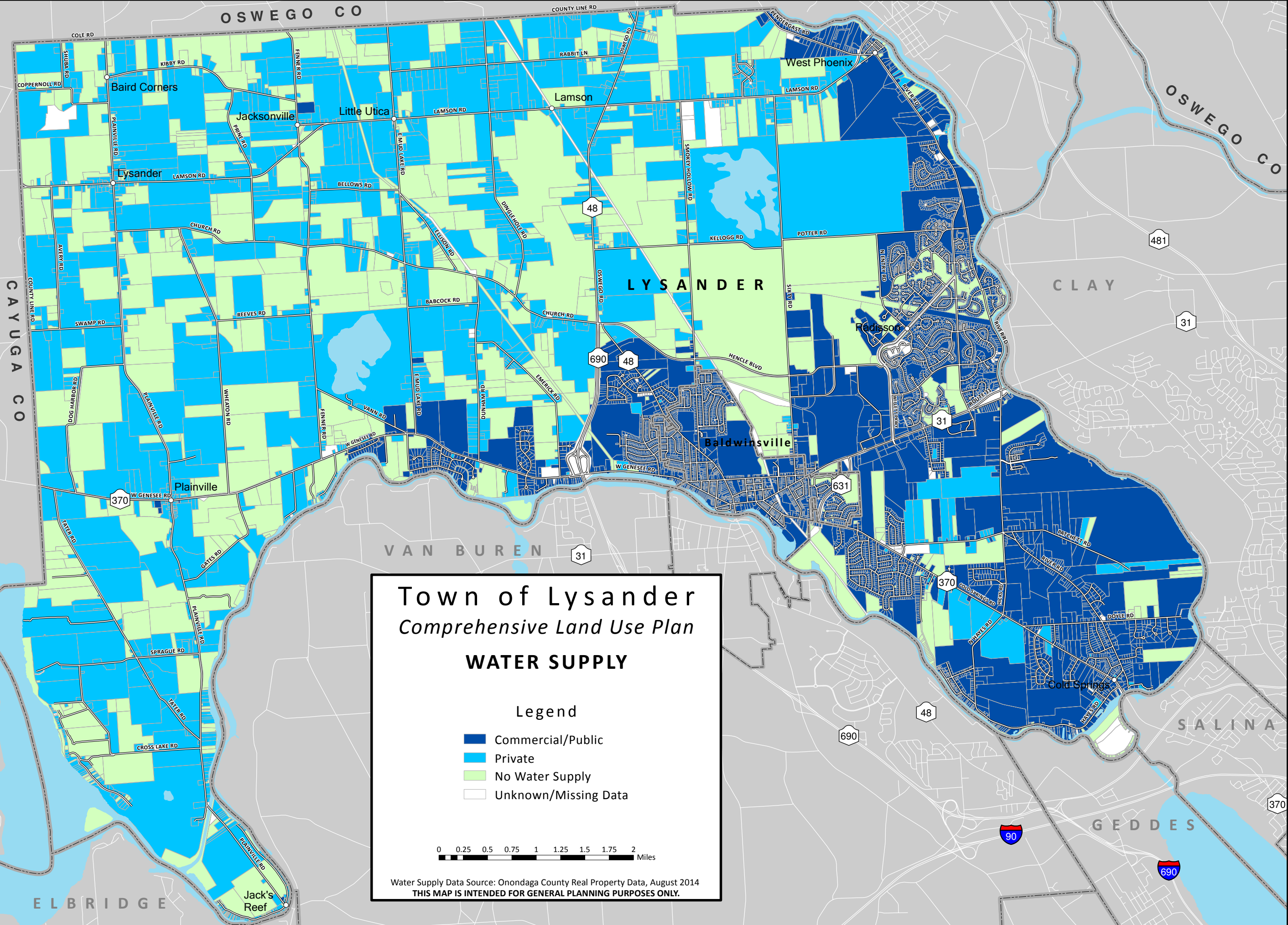
Legend

<p>Major Watersheds</p> <ul style="list-style-type: none"> Oswego River Basin Lower Seneca River Basin 	<ul style="list-style-type: none"> Sub-Watershed Boundary Tributary Watershed Boundary Perennial Streams Intermittent Streams
--	---

0 0.25 0.5 0.75 1 1.25 1.5 1.75 2 Miles

Watershed Data Source: Onondaga County Environmental Management Council
Environmental Inventory Maps
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.



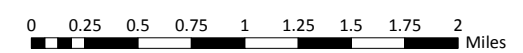


Town of Lysander Comprehensive Land Use Plan

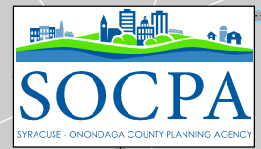
WATER SUPPLY

Legend

- Commercial/Public
- Private
- No Water Supply
- Unknown/Missing Data



Water Supply Data Source: Onondaga County Real Property Data, August 2014
 THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.



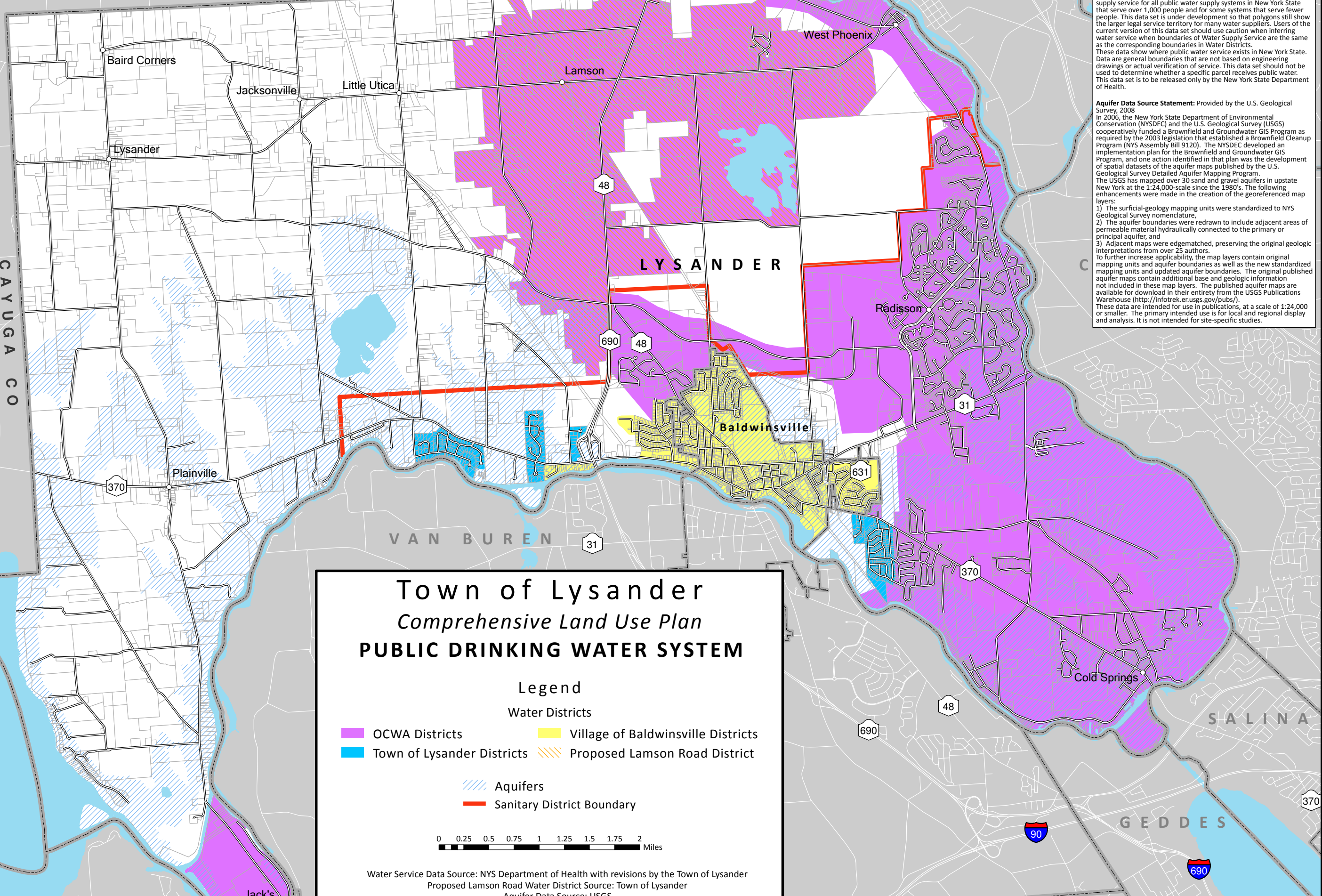


OSWEGO CO

CAYUGA CO

Water Districts Data Source Statement: Provided by the New York State Department of Health, Center for Environmental Health, 2008. This geographic data set contains boundaries of the areas with water supply service for all public water supply systems in New York State that serve over 1,000 people and for some systems that serve fewer people. This data set is under development so that polygons still show the larger legal service territory for many water suppliers. Users of the current version of this data set should use caution when inferring water service when boundaries of Water Supply Service are the same as the corresponding boundaries in Water Districts. These data show where public water service exists in New York State. Data are general boundaries that are not based on engineering drawings or actual verification of service. This data set should not be used to determine whether a specific parcel receives public water. This data set is to be released only by the New York State Department of Health.

Aquifer Data Source Statement: Provided by the U.S. Geological Survey, 2008. In 2006, the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Geological Survey (USGS) cooperatively funded a Brownfield and Groundwater GIS Program as required by the 2003 legislation that established a Brownfield Cleanup Program (NYS Assembly Bill 9120). The NYSDEC developed an implementation plan for the Brownfield and Groundwater GIS Program, and one action identified in that plan was the development of spatial datasets of the aquifer maps published by the U.S. Geological Survey Detailed Aquifer Mapping Program. The USGS has mapped over 30 sand and gravel aquifers in upstate New York at the 1:24,000-scale since the 1980's. The following enhancements were made in the creation of the georeferenced map layers:
 1) The surficial-geology mapping units were standardized to NYS Geological Survey nomenclature,
 2) The aquifer boundaries were redrawn to include adjacent areas of permeable material hydraulically connected to the primary or principal aquifer, and
 3) Adjacent maps were edgematched, preserving the original geologic interpretations from over 25 authors.
 To further increase applicability, the map layers contain original mapping units and aquifer boundaries as well as the new standardized mapping units and updated aquifer boundaries. The original published aquifer maps contain additional base and geologic information not included in these map layers. The published aquifer maps are available for download in their entirety from the USGS Publications Warehouse (<http://infotrek.er.usgs.gov/pubs/>). These data are intended for use in publications, at a scale of 1:24,000 or smaller. The primary intended use is for local and regional display and analysis. It is not intended for site-specific studies.



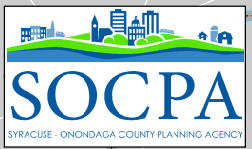
Town of Lysander Comprehensive Land Use Plan PUBLIC DRINKING WATER SYSTEM

Legend

Water Districts	
 OCWA Districts	 Village of Baldwinsville Districts
 Town of Lysander Districts	 Proposed Lamson Road District
 Aquifers	
 Sanitary District Boundary	

0 0.25 0.5 0.75 1 1.25 1.5 1.75 2 Miles

Water Service Data Source: NYS Department of Health with revisions by the Town of Lysander
 Proposed Lamson Road Water District Source: Town of Lysander
 Aquifer Data Source: USGS
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OSWEGO CO

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VAN BUREN

SALINA

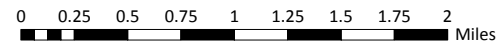
GEDDES

ELBRIDGE

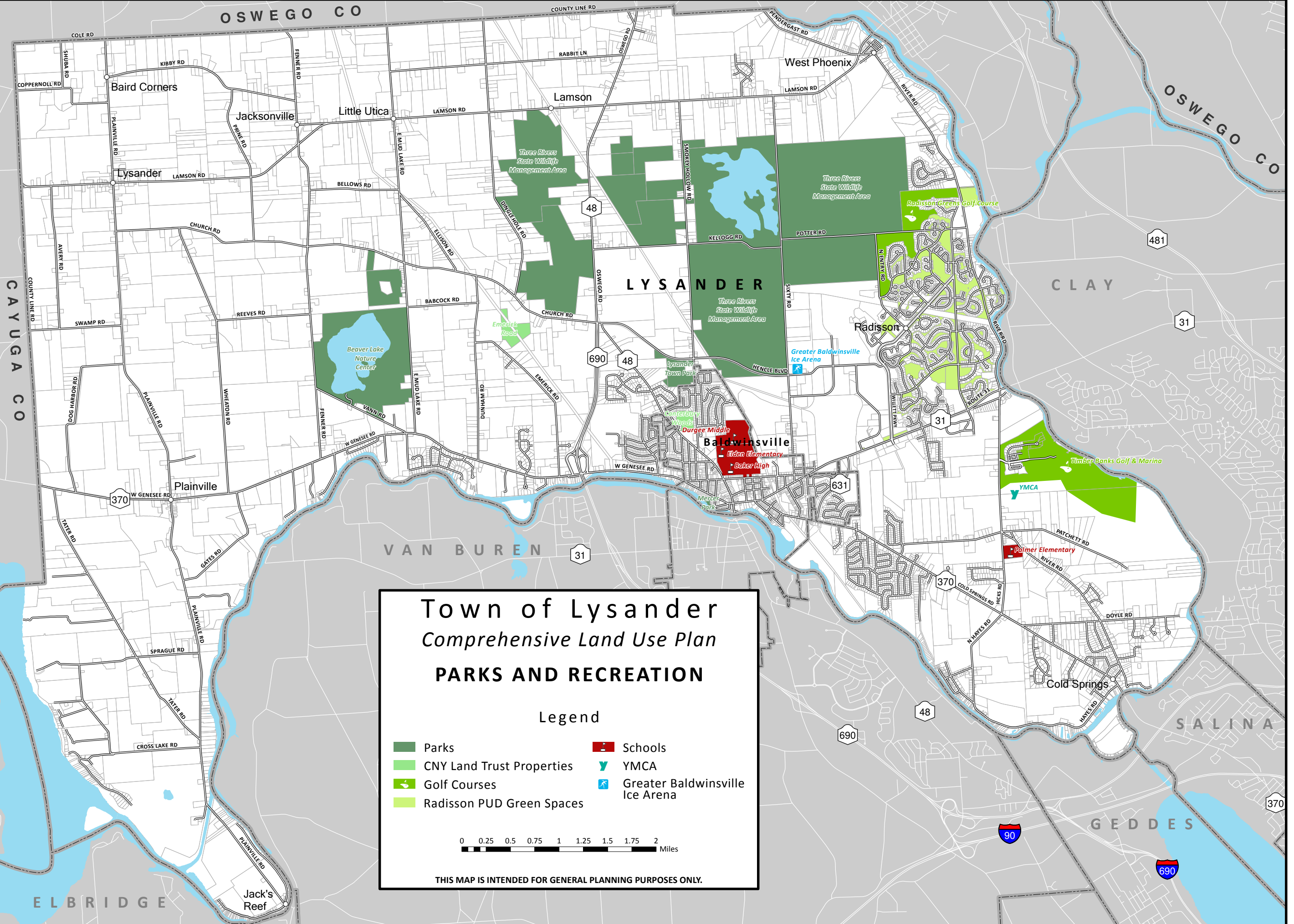
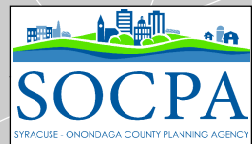
Town of Lysander Comprehensive Land Use Plan PARKS AND RECREATION

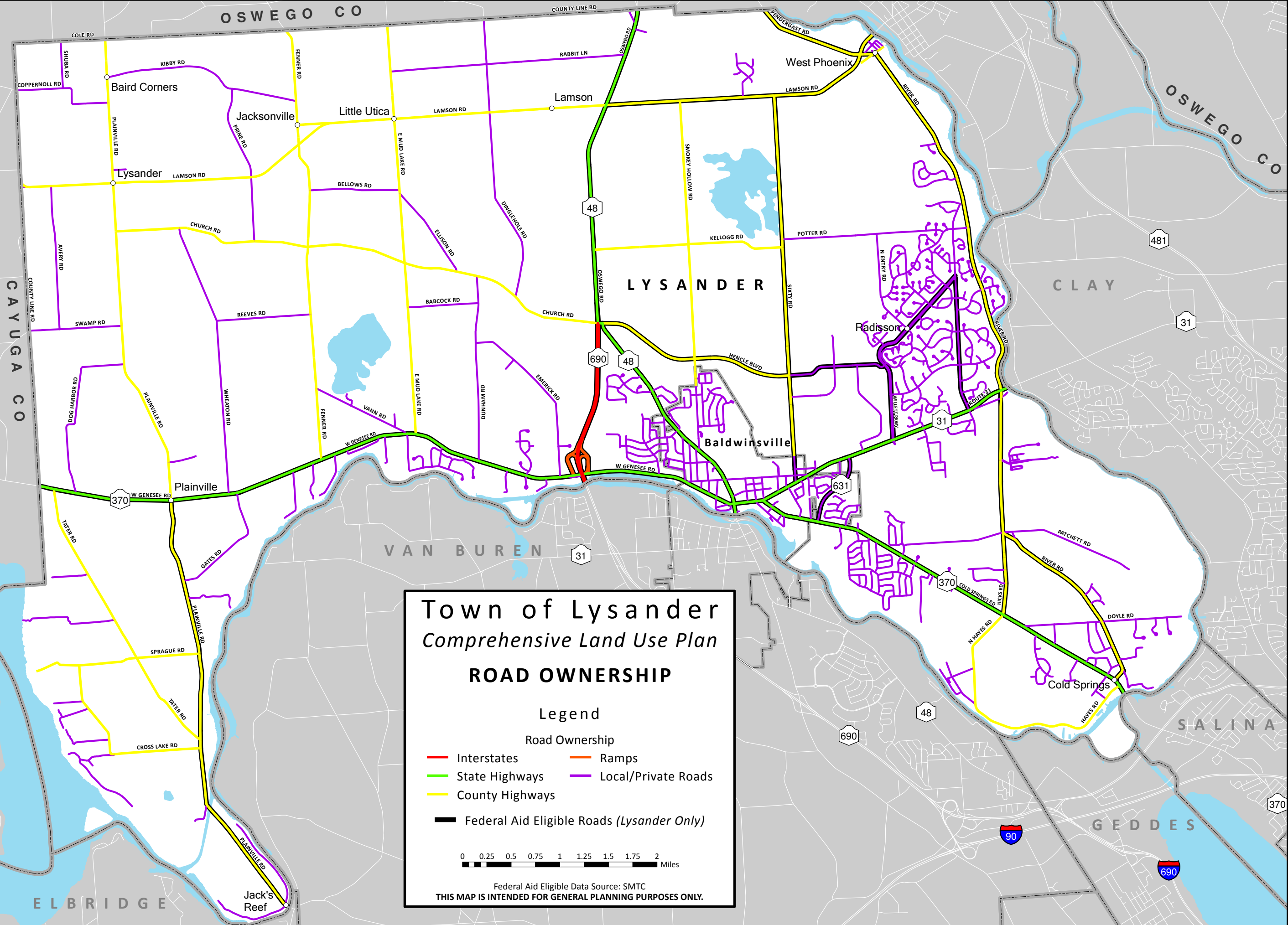
Legend

- Parks
- CNY Land Trust Properties
- Golf Courses
- Radisson PUD Green Spaces
- Schools
- YMCA
- Greater Baldwinsville Ice Arena



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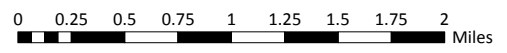


Town of Lysander Comprehensive Land Use Plan ROAD OWNERSHIP

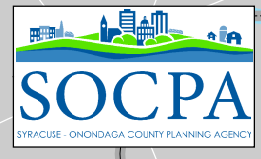
Legend

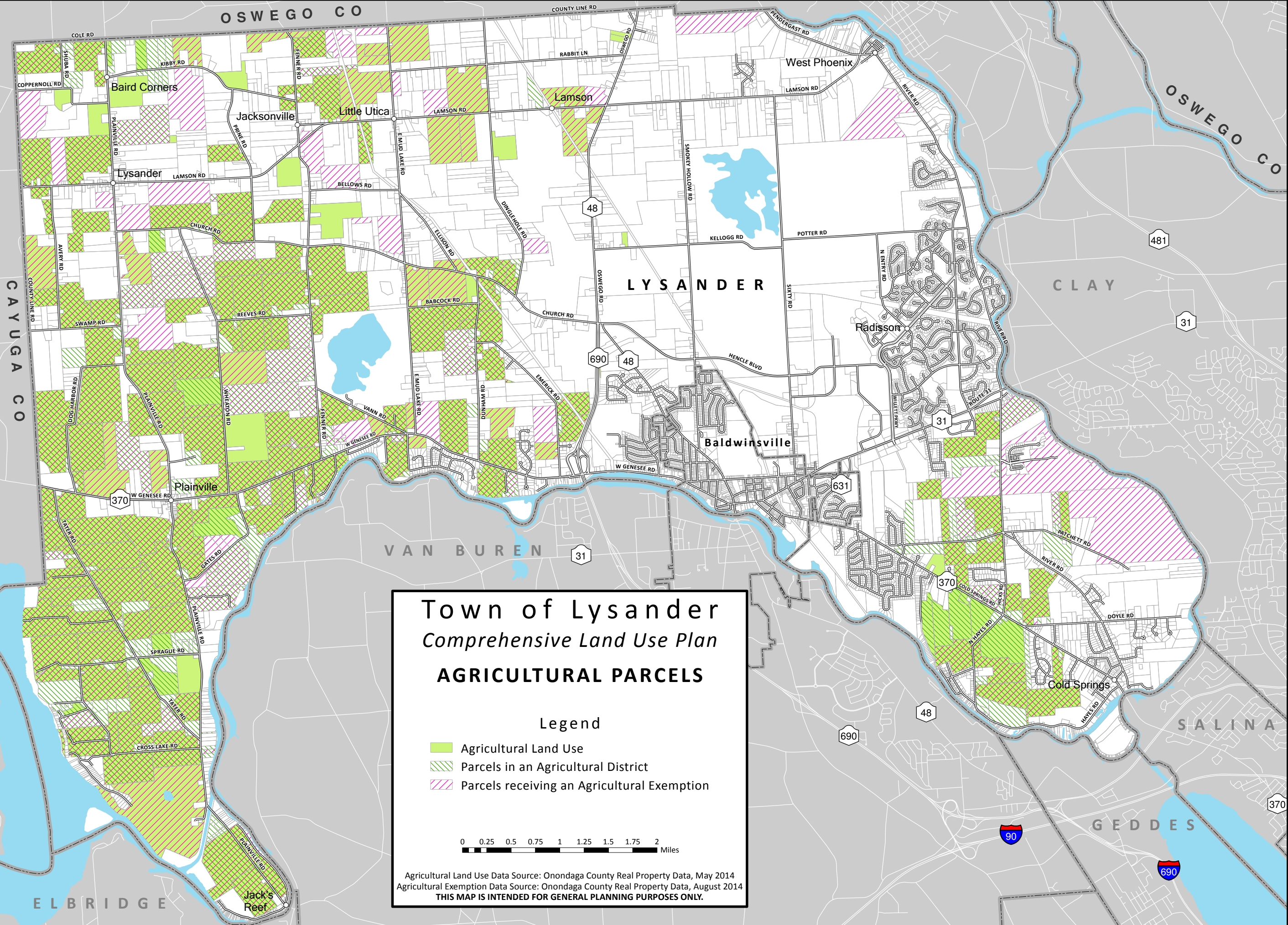
Road Ownership

- Interstates
- State Highways
- County Highways
- Ramps
- Local/Private Roads
- Federal Aid Eligible Roads (*Lysander Only*)



Federal Aid Eligible Data Source: SMTC
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.





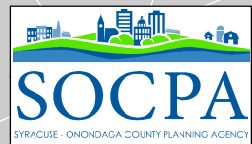
Town of Lysander
Comprehensive Land Use Plan
AGRICULTURAL PARCELS

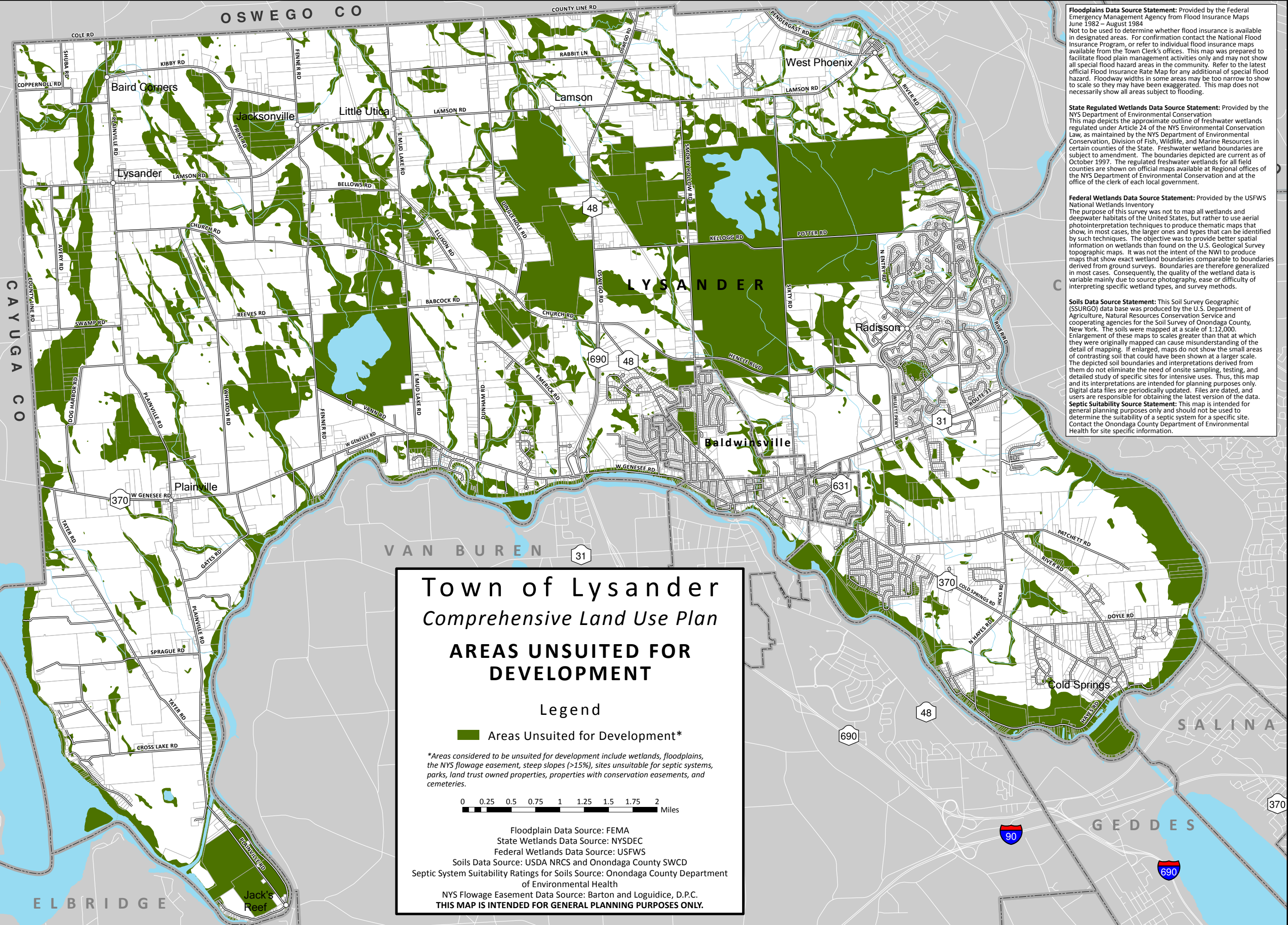
Legend

- Agricultural Land Use
- Parcels in an Agricultural District
- Parcels receiving an Agricultural Exemption

0 0.25 0.5 0.75 1 1.25 1.5 1.75 2 Miles

Agricultural Land Use Data Source: Onondaga County Real Property Data, May 2014
 Agricultural Exemption Data Source: Onondaga County Real Property Data, August 2014
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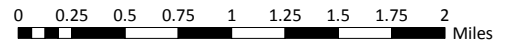
Town of Lysander Comprehensive Land Use Plan

AREAS UNSUITED FOR DEVELOPMENT

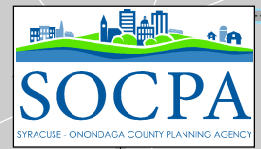
Legend

 Areas Unsited for Development*

*Areas considered to be unsited for development include wetlands, floodplains, the NYS flowage easement, steep slopes (>15%), sites unsuitable for septic systems, parks, land trust owned properties, properties with conservation easements, and cemeteries.

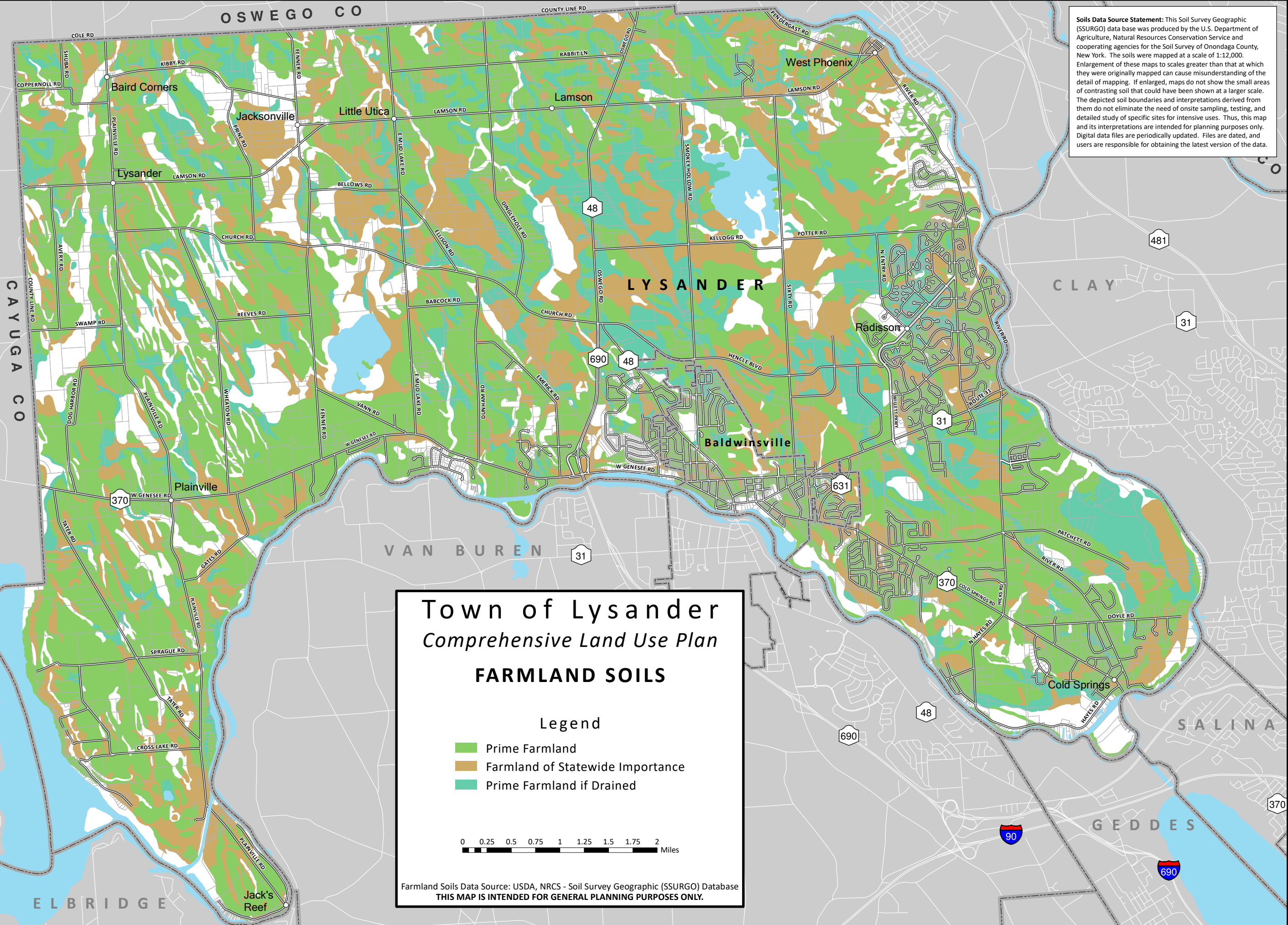


Floodplain Data Source: FEMA
 State Wetlands Data Source: NYSDEC
 Federal Wetlands Data Source: USFWS
 Soils Data Source: USDA NRCS and Onondaga County SWCD
 Septic System Suitability Ratings for Soils Source: Onondaga County Department of Environmental Health
 NYS Flowage Easement Data Source: Barton and Loguidice, D.P.C.
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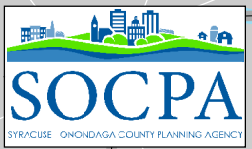
Town of Lysander
Comprehensive Land Use Plan
FARMLAND SOILS

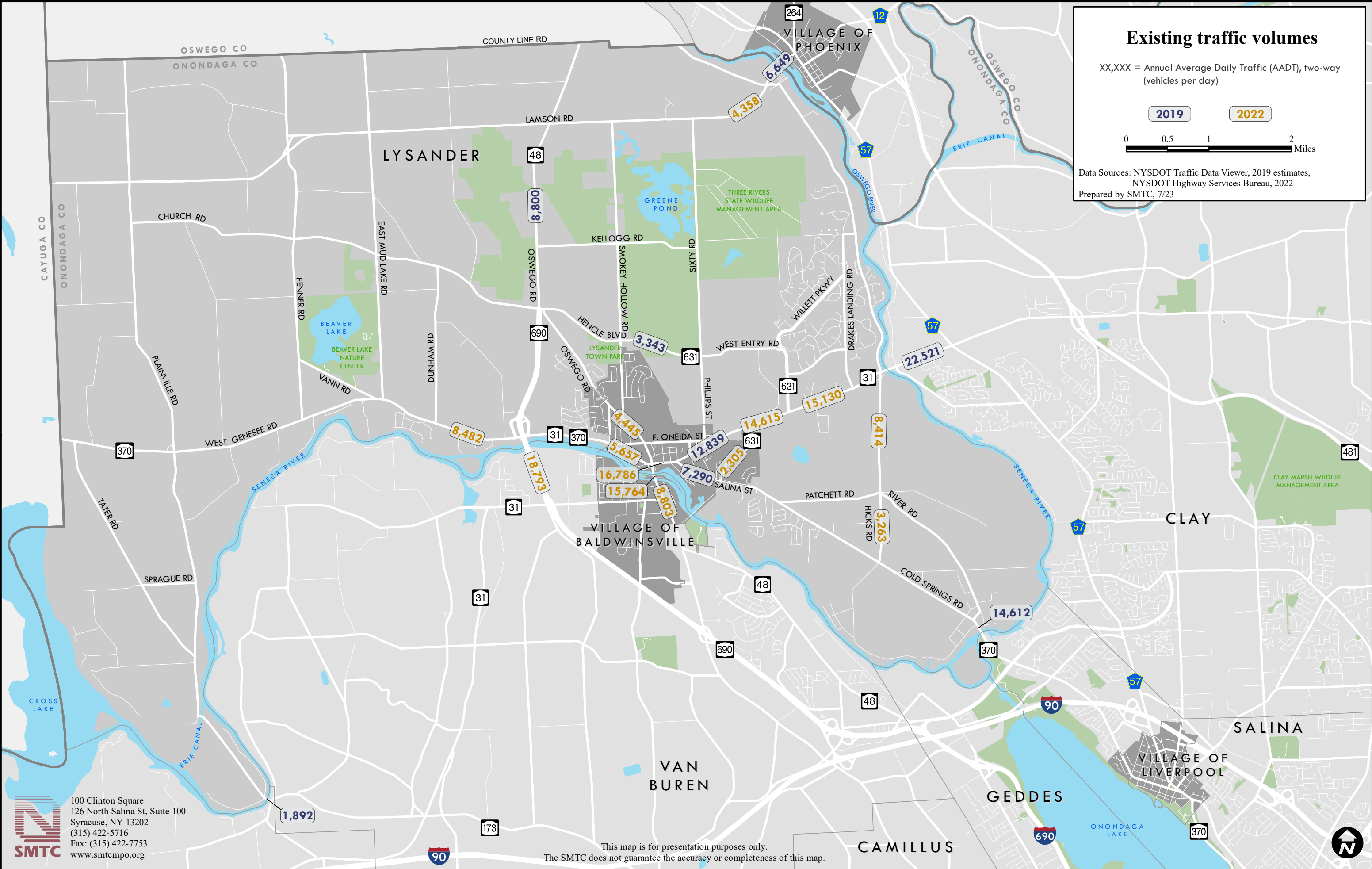
Legend

- Prime Farmland
- Farmland of Statewide Importance
- Prime Farmland if Drained

0 0.25 0.5 0.75 1 1.25 1.5 1.75 2 Miles

Farmland Soils Data Source: USDA, NRCS - Soil Survey Geographic (SSURGO) Database
THIS MAP IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.






Existing traffic volumes

XX,XXX = Annual Average Daily Traffic (AADT), two-way
(vehicles per day)

2019 **2022**

0 0.5 1 2 Miles

Data Sources: NYSDOT Traffic Data Viewer, 2019 estimates,
NYSDOT Highway Services Bureau, 2022
Prepared by SMTC, 7/23


 100 Clinton Square
 126 North Salina St, Suite 100
 Syracuse, NY 13202
 (315) 422-5716
 Fax: (315) 422-7753
www.smtcny.org

This map is for presentation purposes only.
The SMTC does not guarantee the accuracy or completeness of this map.



Change in traffic volumes, 2012 to 2019/2022

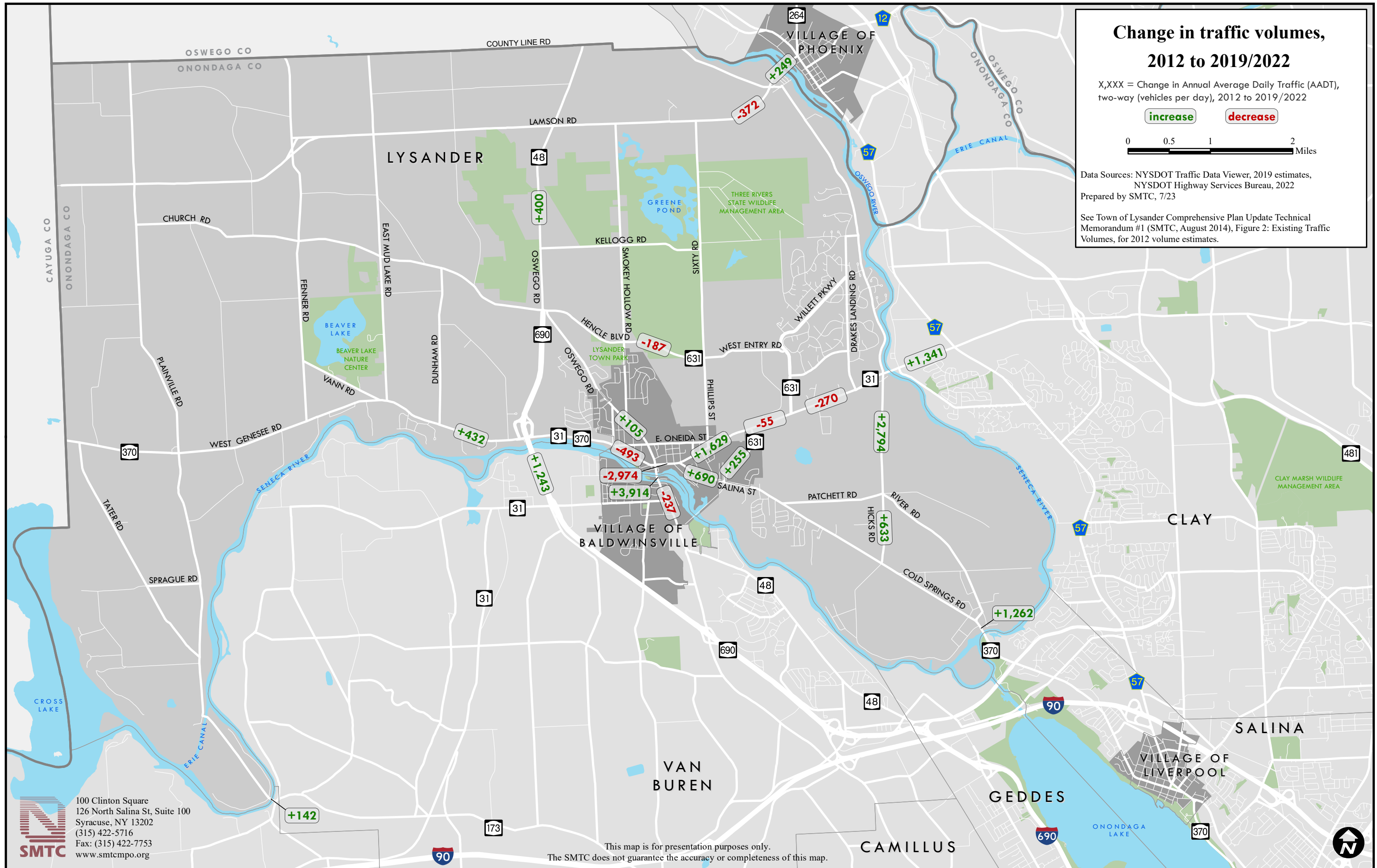
X,XXX = Change in Annual Average Daily Traffic (AADT),
two-way (vehicles per day), 2012 to 2019/2022

+ increase - decrease

0 0.5 1 2 Miles

Data Sources: NYSDOT Traffic Data Viewer, 2019 estimates,
NYSDOT Highway Services Bureau, 2022
Prepared by SMTC, 7/23

See Town of Lysander Comprehensive Plan Update Technical
Memorandum #1 (SMTC, August 2014), Figure 2: Existing Traffic
Volumes, for 2012 volume estimates.



SMTC
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126 North Salina St, Suite 100
Syracuse, NY 13202
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