



Transportation Issue Assessment and Best Practices Guide
Town of Lansing, New York



Cornell Design Connect
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About Design Connect

Design Connect is a collaborative, student-run, multidisciplinary planning and design organization at Cornell University. Operating in cities and towns across Central New York, Design Connect applies community-based, democratic, and sustainable principles to a variety of planning and design problems in local communities.





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Project Background

Councilperson Hopkins approached Design Connect with concerns about the rapid pace of development in Lansing and questions about the quality-of-life impacts that housing currently in the development pipeline might have on the community. As part of an ongoing comprehensive plan update process, the town commissioned a resident survey; the results of the survey indicate that residents share similar concerns about the town's wild and agricultural heritage, congestion, traffic, municipal spending, affordability, and sense of place.

The ongoing comp plan update, together with the conversation surrounding 15 to 20 proposed suburban residential housing projects, offers a chance to bring community desires into alignment with Lansing's planning, zoning, and urban design strategies for the coming years. The town would like to accomplish a thorough review of best practices for guarding against the negative impacts of new development, with a specific focus on the transportation issues that cause concern for local residents. On the basis of conversations with Lansing's Town Board, Planning Board, and Comprehensive Plan Update Committee, along with feedback from local residents, the Design Connect Lansing team developed this guide using a best-practices framework to respond to many of the concerns that were raised by community members.

Community History

Lansing, New York was within the territory of the Native American Cayuga Tribe. The history of European settlement in the area dates back to the late 1700s when settlers arrived from Pennsylvania, New Jersey, Connecticut, and other areas of New York. In 1760, the area was divided into lots of land, the Central New York Military Tract, in order to reimburse Revolutionary War soldiers. A lack of Native Americans, due to General Sullivan's expedition in 1779, and the fertile land in Western New York, attracted early settlers to the area. In 1817 the act that created Tompkins County resulted in the formation of the Town of Lansing, setting it apart from the Town of Milton which it had previously been a part of. Historical farmers were served by grist mills, saw mills, clothing mills, blacksmith shops and tanneries operated by other settlers.

Lansing is located on the eastern shore of Cayuga Lake and is 69.92 square miles, 9.2 of which are water. According to the 2010 census, Lansing had a population of 11,033. Nearly half of the community works in educational services in nearby Tompkins County Community College, Ithaca College and Cornell University. Lansing is a rural community; about one third of the town's land area is farmed on by forty operating farm businesses.



Process Summary

Research

To better understand Lansing's transportation issues and the context that surrounds them, the team consulted a variety of sources during an extensive research phase.

Information on the Town's current zoning codes, regulations, and recent development activity was gathered. The team also looked in depth into the community's comprehensive plan and documents prepared by the current Comprehensive Plan Update Committee, along with survey results prepared for the comp plan update summarizing resident sentiments about a variety of planning issues. Both the Ithaca - Tompkins County Transportation Council and the Tompkins County Planning Department have prepared studies in the past that explore transportation issues in our study area. In addition, the team gathered information from Tompkins Consolidated Area Transit and local transportation advocacy groups.

Two separate tours of the study area were conducted during peak morning and evening traffic hours to observe and document a range of transportation conditions. Lastly, to identify appropriate interventions that might be applied in the community, the group sought information from State and Federal government agency sources, national transportation advocacy groups and think tanks, and university research projects. Issues explored included traffic counts, accidents and traffic safety, bicycle and pedestrian issues, transit service and usage, regional commuting patterns, streetscape design, zoning, and land use.

Outreach

The team's outreach process was developed in response to the broad variety of transportation issues we hoped to address. While working with community leaders to refine the project scope during early phases, the team conducted on-site brainstorming meetings and phone interviews with members of the Town Council, the Planning Board, and Lansing's Town Planner. As the scope narrowed and major thematic issues began to emerge, representatives of the team distributed project information and team contact info at meetings of the Planning Board and Comprehensive Plan Update Committee, which generated interest in the project and feedback about current transportation issues and potential interventions. Informal conversations with community leaders and local residents following those meetings also proved informative. Additionally, the team benefited from the fact that a town-wide survey on a number of transportation and planning-related issues had recently been conducted as a part of the comprehensive plan update process. While Lansing is a large community and some residents were difficult to reach, long-form survey responses and town records provided to the group served as an excellent resource in gauging community sentiment on a variety of relevant topics.



The team delivering a project update to the Planning Board.

Analysis Framework

Distilling a wide range of community concerns and issues into a coherent set of themes posed an early challenge for the group. The range of transportation system challenges identified by community contacts, taken together with the large geographic extent of the proposed study area, made settling on a framework difficult. Eventually, an analytical framework emerged that was designed to approach many different issues through a broad, holistic look at transportation and related land use issues in the southernmost portion of the community.

The team opted to explore several broad transportation themes: traffic volumes and associated effects, alternative transportation, regional connections, streetscape design, and land use. Through this lens, the team chose to assess baseline conditions in the town and explore potential short- and long-term changes to the community's transportation system as different forces exert influence over time. Finally, using information gathered during research, outreach, and the baseline conditions assessment, the team elected to highlight best practices for transportation issues in rural communities and identify locations where interventions might be deployed in the Town of Lansing. The guide to best practices was to include information on how to finance improvements to the town's transportation system, along with reflections on how changes to town policy and planning procedure could generate positive changes in the community transportation landscape.

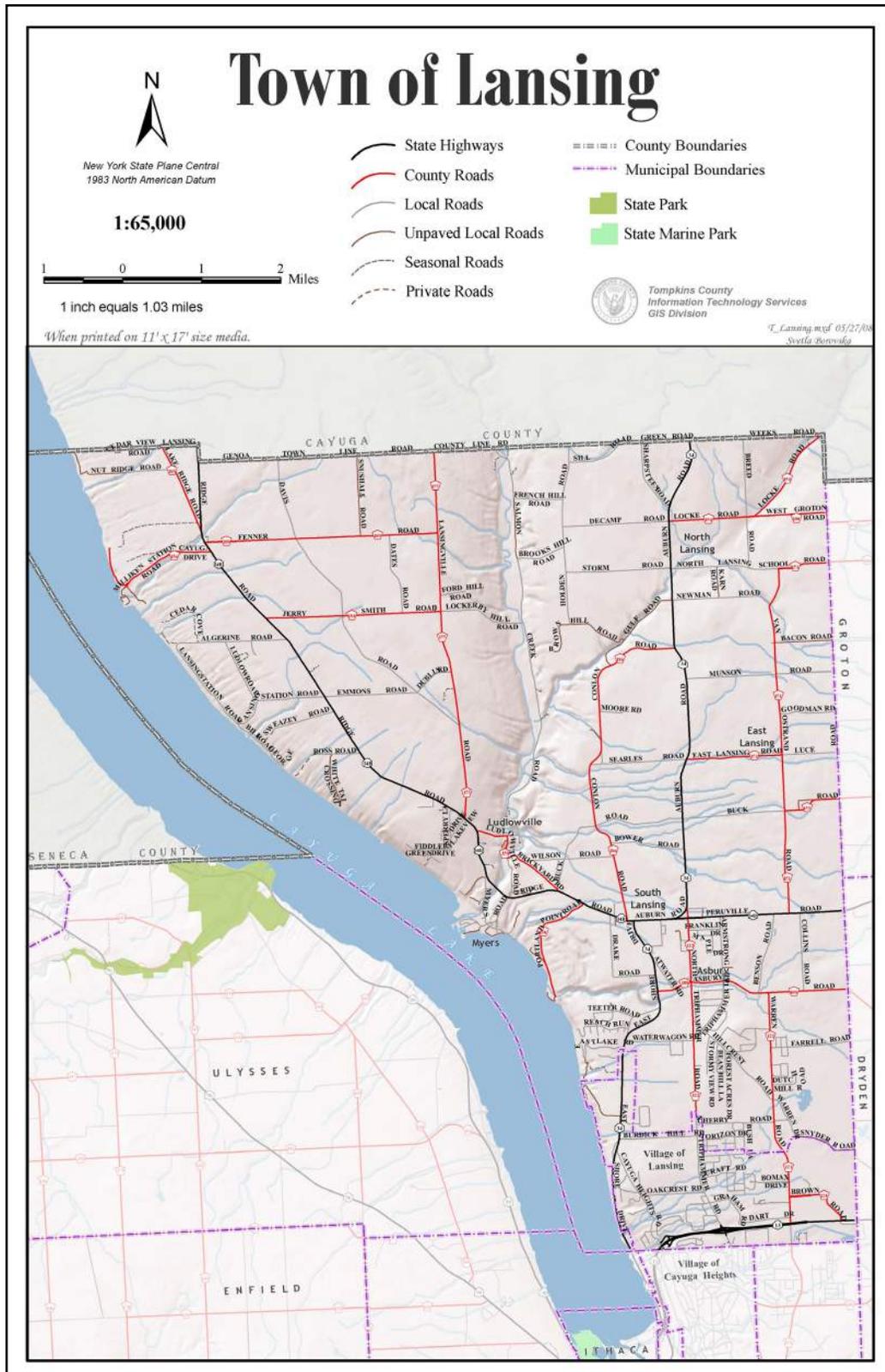


The Study Area is bounded approximately by the Village of Lansing Line to the south, the Lansing Town Center to the north, Cayuga Lake to the west, and the town line to the east.

Baseline Conditions

The Town of Lansing's existing transportation network consists largely of roads with a variety of classifications and purposes. Two major north-south roads, Route 34 and Triphammer Road, run the length of the study area, channeling traffic to and from Ithaca and the commercial areas of the Village of Lansing. These two roads are classified by local agencies as Urban Minor Arterials. Another north-south road located further east, Warren Road, moves traffic through industrial areas of the community and past the airport, and is classified as an Urban Collector Street. Asbury Road, which connects the three major north-south routes between the Village line and the town center, shares this classification. Other streets in the community are classified as Urban Local Roads, reflecting their status as low volume streets serving denser, suburbanized neighborhoods. Local planning agencies have also identified Route 34 and Triphammer road as major freight corridors, thanks to the presence of several major freight generators nearby.

Surveys conducted to inform the Town of Lansing's comprehensive plan update, along with interviews of local residents, reveal a number of different perceived problems with the Town's road network and overall transportation system. While most streets in the study area are effective at moving vehicle traffic swiftly through the community, this convenience has come partly at the expense of other modes. Residents cited high traffic speeds, high traffic volumes, and truck traffic as major disincentives for pedestrians and bicyclists. Noting the absence of shoulders in much of the town, the scarcity of signaled intersections and street lighting, and the few designated pedestrian crossing areas, many residents shared memories of recent accidents. They made clear that perceptions of danger limit interest in other modes and can make the experience of driving uncomfortable. Other issues, such as the absence of turn lanes and the congestion along certain arterial roads, contributed to perceptions that some form of intervention could be required. Route 34, the town center area, Triphammer Road, Waterwagon Road, Hillcrest Road, and Warren Road were frequently mentioned as unsafe or dysfunctional during these conversations.



A map from the Tompkins County Planning Office showing jurisdiction over roads in the Town of Lansing. The study area is located in the lower right hand quadrant of the map.

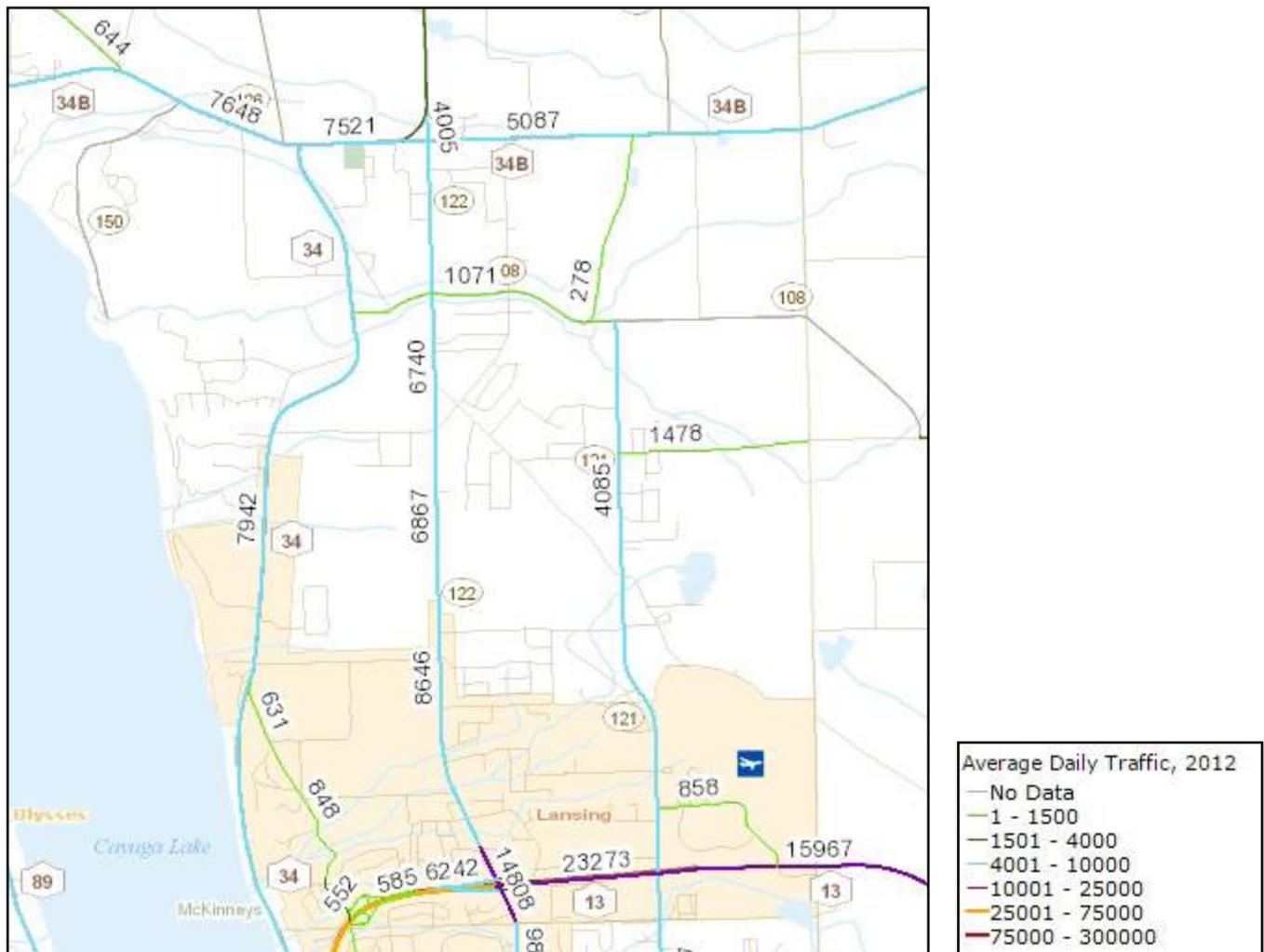


Consistent with these perspectives, records kept by the Lansing Town Clerk's Office reveal a long history of neighborhood requests for transportation interventions in the study area. Along Route 34, improvements have been requested at intersections with Eastlake Road, Waterwagon Road, and E. Shore Circle, which fall along a high-speed curve. One 2011 petition with nearly 100 signatures from neighbors requested new signage, flashing lights, lower speed limits, more enforcement, lighting, and improved sight lines, indicating a strong degree of neighborhood support for focusing on safety. In this instance, the state approved a flashing beacon on the southbound portion of Route 34 approaching the intersection with Waterwagon Road. Speed limits have also been lowered along Route 34 between Eastlake and 34B, but many of the issues that caused neighbors concern have not been resolved.

Similar requests for lower speed limits, traffic signals, lighting, enforcement, and other traffic pattern changes have been made for Waterwagon Road, Asbury Road, Triphammer Road, and Warren Road, with a special focus on sensitive intersections along these corridors including Waterwagon / Triphammer, Asbury / Triphammer, and Warren / Asbury. Residents of neighborhoods alongside Asbury and Triphammer Roads have supported their requests with petitions and letters to local officials. While some of these requests have resulted in lowered speed limits, others have been rejected.

Major accidents in the study area along the Triphammer corridor in 2013 and 2014, which required victims to be airlifted to regional hospitals, have kept Lansing's transportation safety issues alive in both local news and the public consciousness. Coupled with a series of recent high-profile articles about new growth, it is expected that community residents in the study area will remain invested in town-wide conversations on transportation system developments related to new growth and change.

Traffic Volumes



Average traffic counts over a 24-hour period along all major roads through the study area from the New York State Department of Transportation.

Road	Average Daily Traffic (2012)
Route 34	7942
Triphammer Road at Village Line	6867
Warren Road	4805
Asbury Road	1071
Route 34B at Route 34	7648
Route 34B at Armstrong Road	5087
Route 34 at Town Center	7521

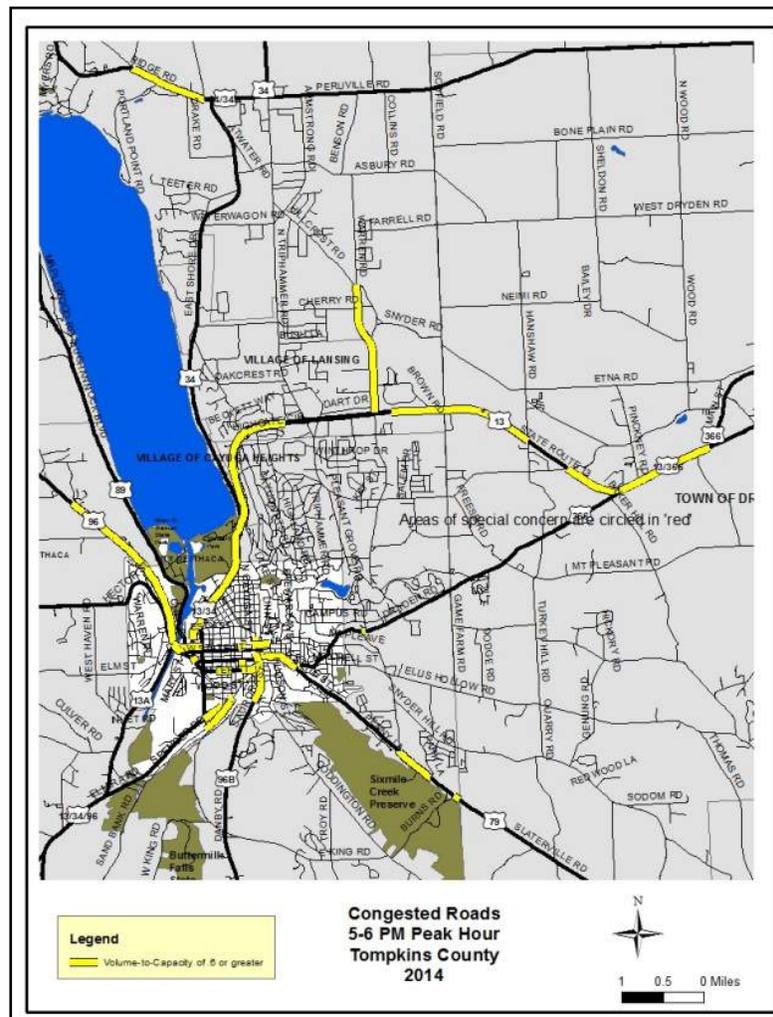
Summary table of 2012 average daily traffic along major road segments.

Recent traffic counts from the Town of Lansing indicate that many of the major roads within the study area have experienced double-digit percentage increases in traffic volume over the past decades. The most significant traffic volumes were recorded at the intersection of Route 34 and Route 34B in the town center, along the southermost reaches of Triphammer Road, and along the major corridor of Route 34 near Ithaca.

While traffic counts provide only a limited view into the traffic issues, and sometimes contain idiosyncrasies, a macro-level assessment of changing traffic volumes in the community supports the assertion that changes in the community are fueling changes in road usage patterns and increases in overall traffic generation.

Congestion

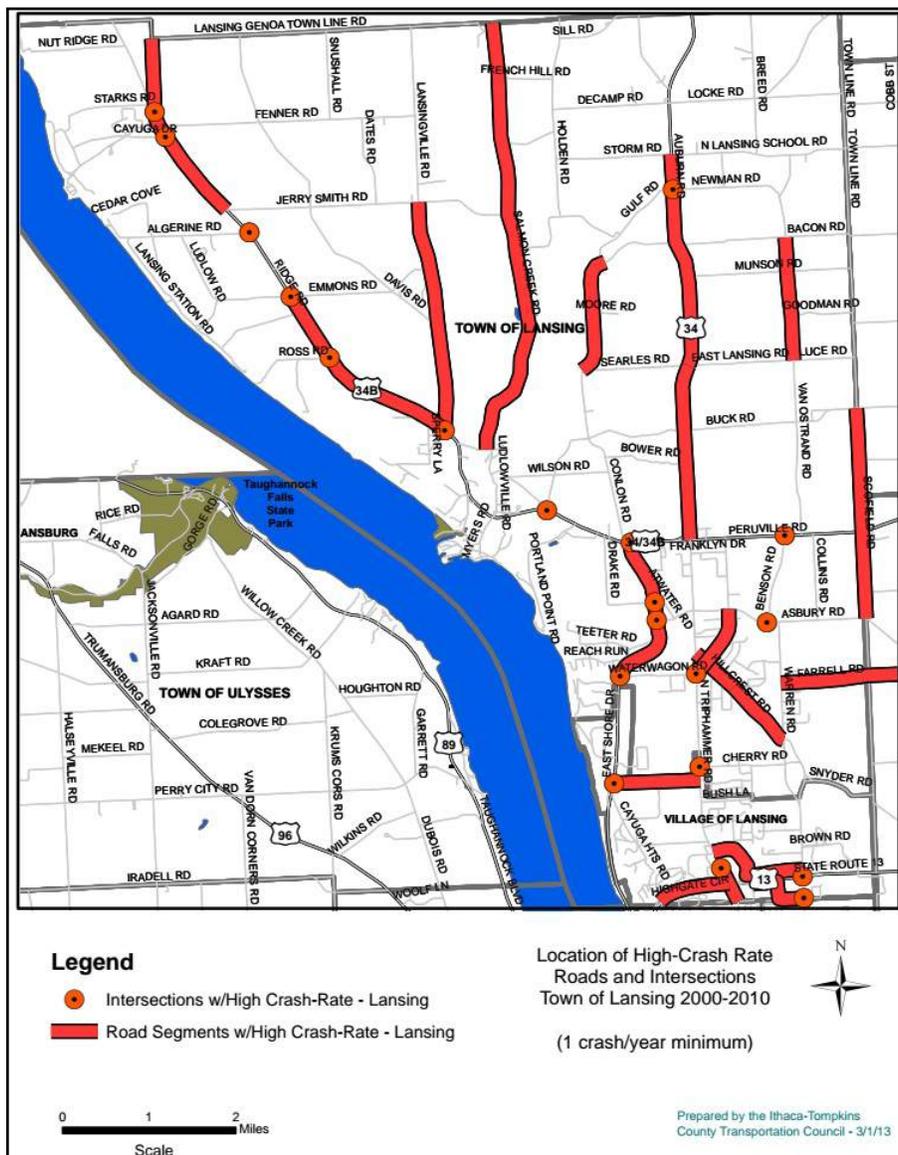
Several areas in the community have been identified as particularly congested. Particularly, the segment of Route 34B immediately west of the town center was identified by both local residents and assessments carried out by other agencies as an area of particular concern. Residents mentioned that traffic flowing southward through the community from the school area creates dangerous and congested conditions daily for much of the afternoon and evening. Another area identified as congested was a segment of Warren Road immediately north of the Village of Lansing line. In both of these areas, traffic volumes exceed the acceptable bounds of road capacity. While congestion is experienced by residents one way and defined by transportation planners another, conversations with locals indicated that smaller-scale pockets of congestion and crowding at intersections exist elsewhere in the community as well.



Congestion maps from the Ithaca-Tompkins County Transportation Council indicate significant PM congestion on Route 34B and Warren Road in Lansing

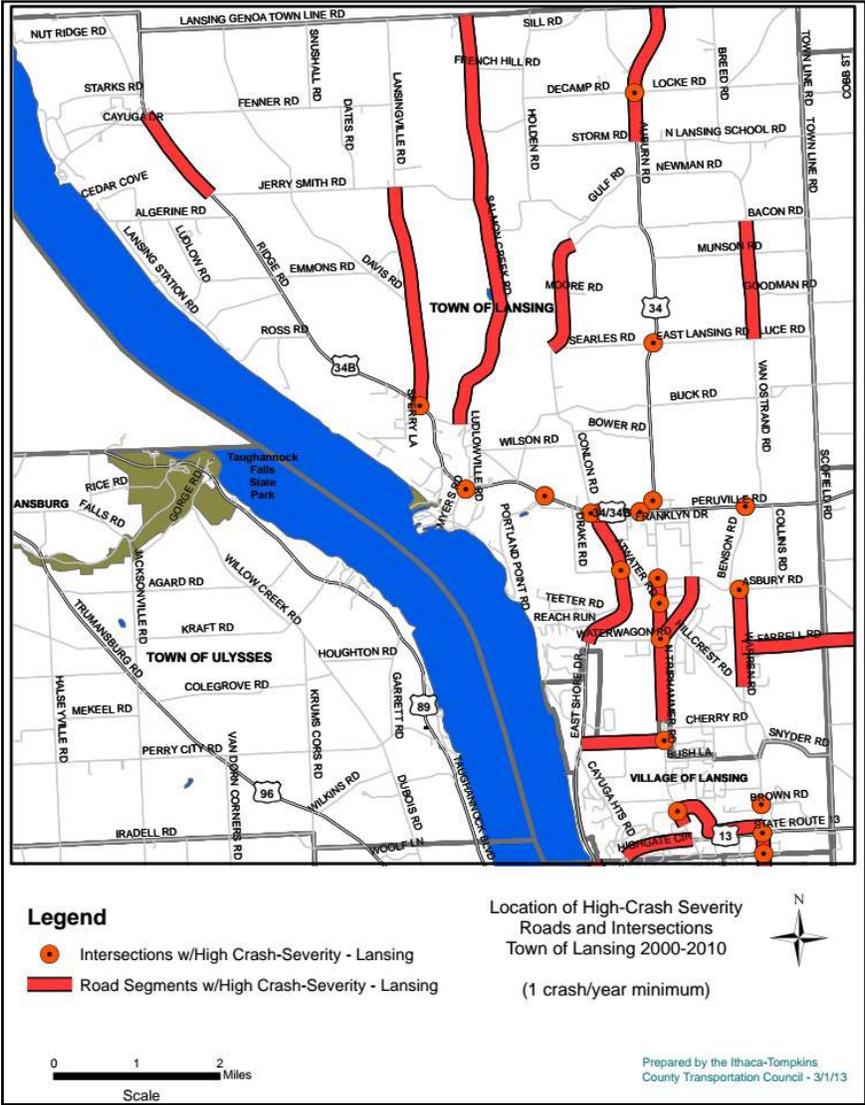
Traffic Safety

A study of traffic accidents across Tompkins County from 2000 to 2010 conducted by the Ithaca-Tompkins County Transportation Council largely confirms many of the perceptions of local residents regarding road safety. Intersections with high crash rates are concentrated almost entirely along Triphammer Road and Route 34, where high-speed collector roads meet neighborhood feeder streets. The road segments where accidents occur most frequently fall along Route 34, Hillcrest Road, Triphammer Terrace, and along other major North-South carrier roads in the northern portion of the town.



The study area, in the lower right-hand corner of this map, hosts a high concentration of high crash rate intersections.

A look into the severity of the accidents that occurred during that time frame reveals a similar picture. High-severity crash intersections are concentrated even more noticeably in the town center and along Triphammer Road leading southward at intersections with Hillcrest Road, Waterwagon Road, and Asbury Road. The segment of Route 34 that passes through the study area south of the town center also plays host to a large number of high-severity accidents.



High-severity crashes are also a common occurrence.

While roads and intersections in Lansing do not rank among the highest in the County for accidents between vehicles and bikes or pedestrians, this lower frequency of incidents may be attributable to the low-density suburban character of the study area, which likely contributes to lower rates of walking and biking overall. Notably, conflict between vehicles and deer is strongly evident in accident patterns, with most collisions occurring along Triphammer Road and Route 34.

Streetscape Conditions Matrix

	Warren Road	Triphammer Road	East Shore	Route 34B	Asbury Road	Waterwagon Road	Hillcrest Road	Town Center
Road Type	County	County	State	State	County	Local	Local	County/ State
Lanes	2	2	2	2	2	2	2	2
Shoulder Presence and Condition	Yes, Wide	Yes, Moderate	Yes, Wide	Varies	No Shoulder	No Shoulder	Yes, Narrow and Un-paved	Yes, Narrow
Right Turn Lanes	Yes	None	None	Yes	None	None	None	Yes
Sidewalks	None	None	None	None	None	None	None	None
Lighting	None	None	None	None	None	None	None	Limited
Runoff Management	Grading; mix of soft and hard infrastructure	Grading and culverts	Grading	Grading and culverts	Grading and culverts	Grading and culverts	Grading, dispersed culverts and drains	Grading, dispersed sewer drains
Public Open Space	None	None	Dispersed	None	None	None	Dispersed	Dispersed
Pedestrian Amenities	None	None	None	None	None	None	None	Trash cans near athletic fields

Streetscape Views

Hillcrest Road



East Shore Drive (Route 34)



Triphammer Road



Warren Road



Route 34B



Route 34B



Town Center



Asbury Road



Waterwagon Road



Streetscape Conditions

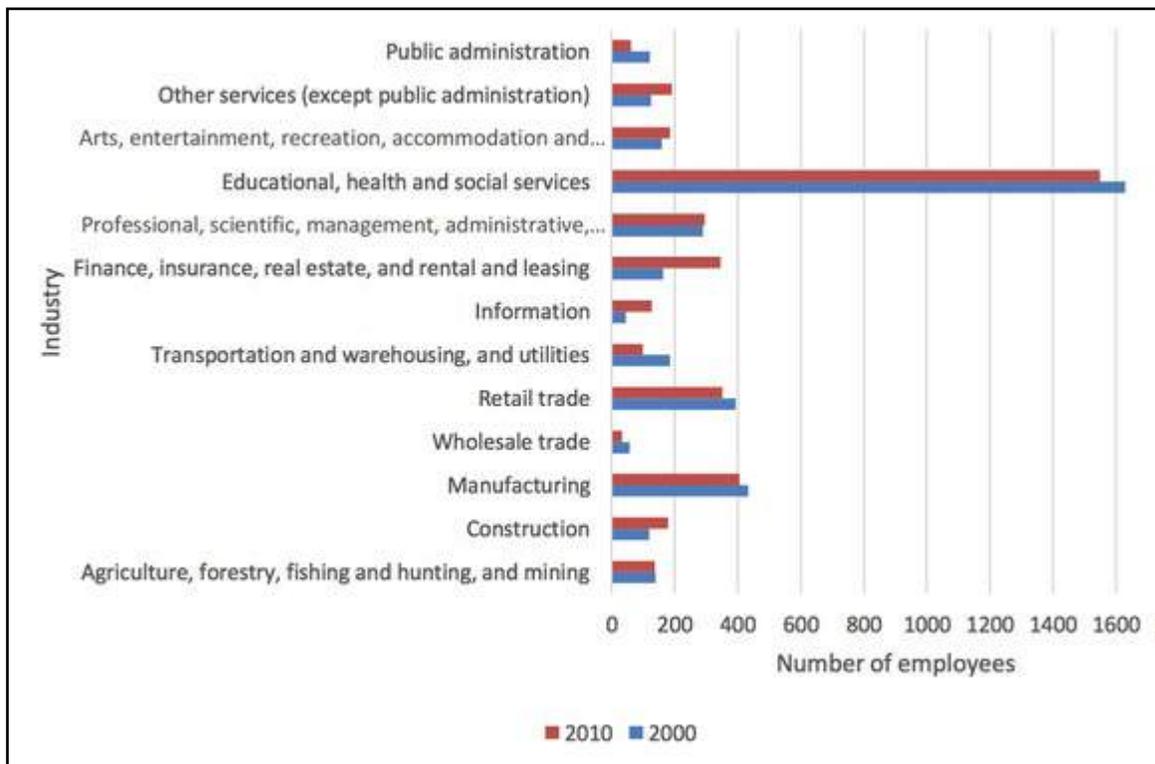
Streetscapes in Lansing are largely rural in nature. Most roads have two lanes, no sidewalks, and minimal pedestrian amenities such as lighting. The widths of shoulders vary - several roads have only narrow gravel shoulders, while others are as wide as three or four feet. Stormwater runoff grading on the side of the road varies in steepness and drops sharply in some areas. Most local roads wind smoothly around the topography of the area. The low density of housing allows for an abundance of natural vegetation, primarily deciduous and coniferous trees, along the sides of the roads.

Community perspectives on streetscape changes are varied. According to information gathered from the pre-comp plan update Community Survey, 58.04% of surveyed residents would like to see tax dollars used for sidewalks and 69.70% are willing to spend tax dollars on bike paths/lanes on roads. After a review of open ended survey responses, a majority cited the lack of sidewalks and pedestrian crosswalks as the main contributing factor to lack of road safety. Other factors include lack of lighting, sharp drop offs, and lack of bike and pedestrian pathways. Main areas of concern include East Shore Drive, Triphammer Road and Asbury Road. Although many people indicated a desire for pedestrian walkways, some felt that the lack of sidewalks contributed to the rural character of the area.

Regional Connections and Commuting Patterns

The Town of Lansing is connected to greater Ithaca and the Central New York region by arterials like Route 34 (Auburn Road/East Shore Drive), Route 13, Route 34B (Peruville Road/Ridge Road), and Triphammer Road. The most important regional connections are those that lead to Ithaca, namely Route 13, East Shore Drive, and Triphammer Road. In addition, several TCAT routes lead from Ithaca and Cornell University into Lansing, providing a means of alternative transportation into and out of the town.

Major employment sectors in the Town of Lansing are Education, Health and Social Services (1,549 employees), Manufacturing (405), Retail Trade (351), Finance, Insurance, Real Estate, and Rental and Leasing (345). Many people commute to jobs outside of Lansing each day, particularly those who work for Cornell University--a substantial percentage of the population.



A chart of the Town's employment distribution shows a large number of workers in education-related fields, manufacturing, and retail - all industries which are concentrated outside of the community.

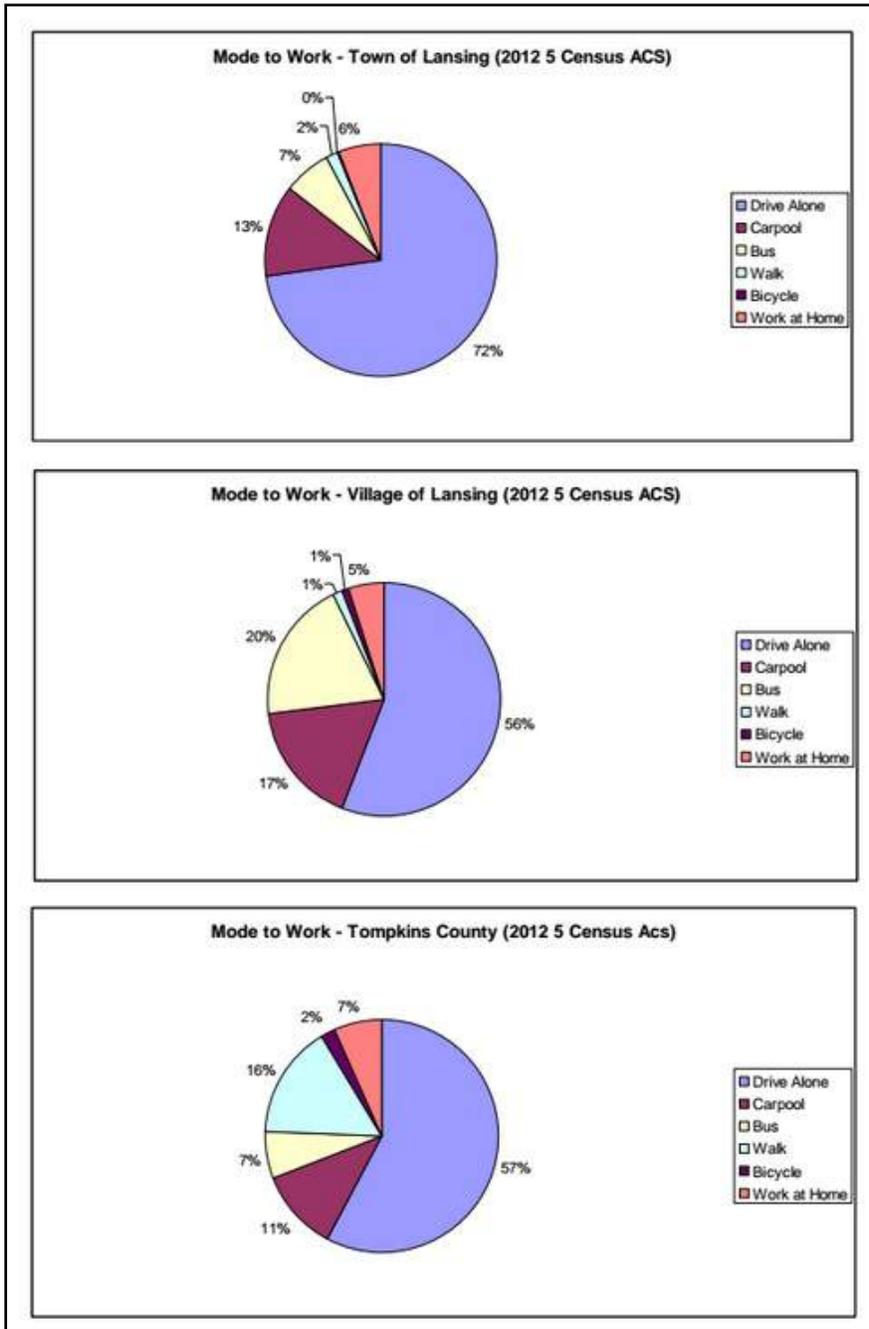
Between 2000 and 2010, the labor force in the Town of Lansing (outside of the Village) increased by 5.9% from 3,922 to 4,155. During the same time frame, the labor force in the Village of Lansing increased by 18.6%, from 1,663 to 1,972. Comparatively, Tompkins County saw its labor force increase by only 4.3% during those years, from 51,187 to 53,371. Lansing, particularly the Village of Lansing, has thus grown at a higher rate than the rest of Tompkins County in recent times. Much of that increase is workers drawn to jobs in other parts of the county.

Lansing's employment distribution reflects the high number of professionals commuting to Cornell and other major employers in Ithaca. In-commuting to Tompkins County from Cayuga County, immediately to the north of Lansing, has increased steadily in recent years.

In keeping with patterns identified in Lansing's road hierarchy, sources indicate that a significant number of the study area's residents commute southward along major north-south corridors into the City and Town of Ithaca. Many are employed by the county's major educational institutions, Cornell University and Ithaca College, with others employed in business and industrial parks located immediately outside the town's southernmost boundaries.

Commuting Mode Split

In terms of commuting modes, the Town of Lansing is much more auto-oriented than Tompkins County as a whole, with 72% of people driving to work alone and another 13% of people carpooling to work. Mode split in the Village of Lansing is much closer to Tompkins County as a whole, with 56% of people driving to work alone and 17% carpooling. Walking to work, in both the Village and the Town of Lansing (with 1% and 2% mode share respectively), is very rare in comparison to Tompkins County as a whole, where walking to work has 17% mode share. Residents of the Town of Lansing take the bus to work at approximately the same rate as people of Tompkins County as a whole (7%), but people in the Village take the bus in much greater numbers, at 20% mode share. Cycling is the least chosen way to work, with mode shares of 0%, 1% and 2% in Town of Lansing, Village of Lansing and Tompkins County respectively.



Charts of commuting modes indicate that the rate of commuters using alternatives to single-occupancy autos lags far behind regional averages.

Alternative Transportation

Bike and Pedestrian Infrastructure

Infrastructure intended solely for use by pedestrians and cyclists is relatively rare in the Town of Lansing. Major roads through the community including East Shore Drive, Ridge Road, Warren Road and Auburn Road have shoulders available for pedestrians and bikes, yet many other streets lack both space and infrastructure for pedestrians or bikers. Visibility around high speed curves is limited on roads such as Route 34, and other streets such as Hillcrest Rd present visibility problems as they rise up steeper hills, creating safety risks for pedestrians and bicycles attempting to share road space. Narrow and winding country roads with no shoulders carry frequent 18-wheeler traffic from the airport-area industrial park, salt mine, and other industrial facilities. Because some roads lack tonnage limits, pedestrians and bicyclists are drawn into conflict with larger, dangerous vehicles on top of regular automobile traffic.

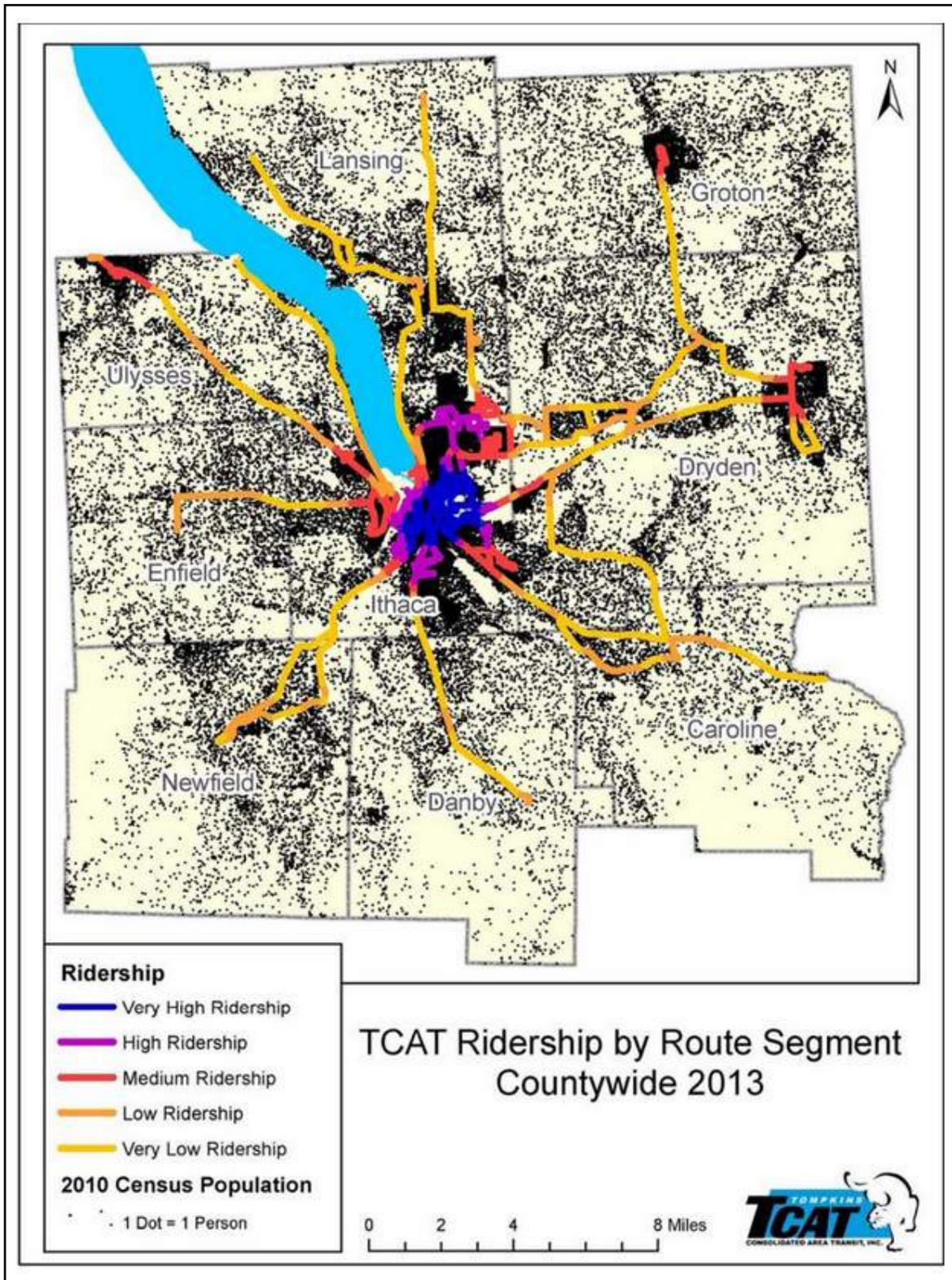
There are also some intersections that pose specific dangers for pedestrians and bikers. The town center intersections of Triphammer Road / 34 and 34B / RT34, in particular, lack any form of safety measures, and high-speed right-hand turns passing outside of the travel lane and through bicycle and pedestrian space are very common. This practice is common elsewhere in the town, both for turning and for passing of turning vehicles, which leaves pedestrians and bikers along shoulders exposed to high speed traffic.



Transit Service

TCAT busses serve the suburban neighborhoods within the study area. Two regular routes, Route 36 and 37, pass through between northern portions of Lansing and Ithaca. Route 36 follows the path of East Shore Drive and serves a park-and-ride lot in the town center area. Route 37 follows Warren Road, Asbury Road, and Triphammer Road before continuing north. One additional weekend-only trip, Route 77, also follows Warren Road, but terminates before reaching the town center. Little formal infrastructure exists for these bus lines, but bus policy allows pickups for flag-stop riders throughout Lansing. While in practice this makes for an easier ride, it can make identifying origin points of riders more difficult.

Current service schedules mean that Lansing is currently served by bus during the morning and evening rush hours only. The absence of a regularly-available bus line has been identified as an obstacle for users who would like to rely more on the bus as a substitute for a personal vehicle. However, low ridership patterns across the community, especially when compared to neighboring communities of similar size, indicate that service frequency is unlikely to increase anytime soon. The community's low density nature and other factors also contribute to a history of poor ridership.



Despite relatively high population densities, maps of TCAT ridership reveal that the Town rates lower than other Tompkins County communities in transit ridership.

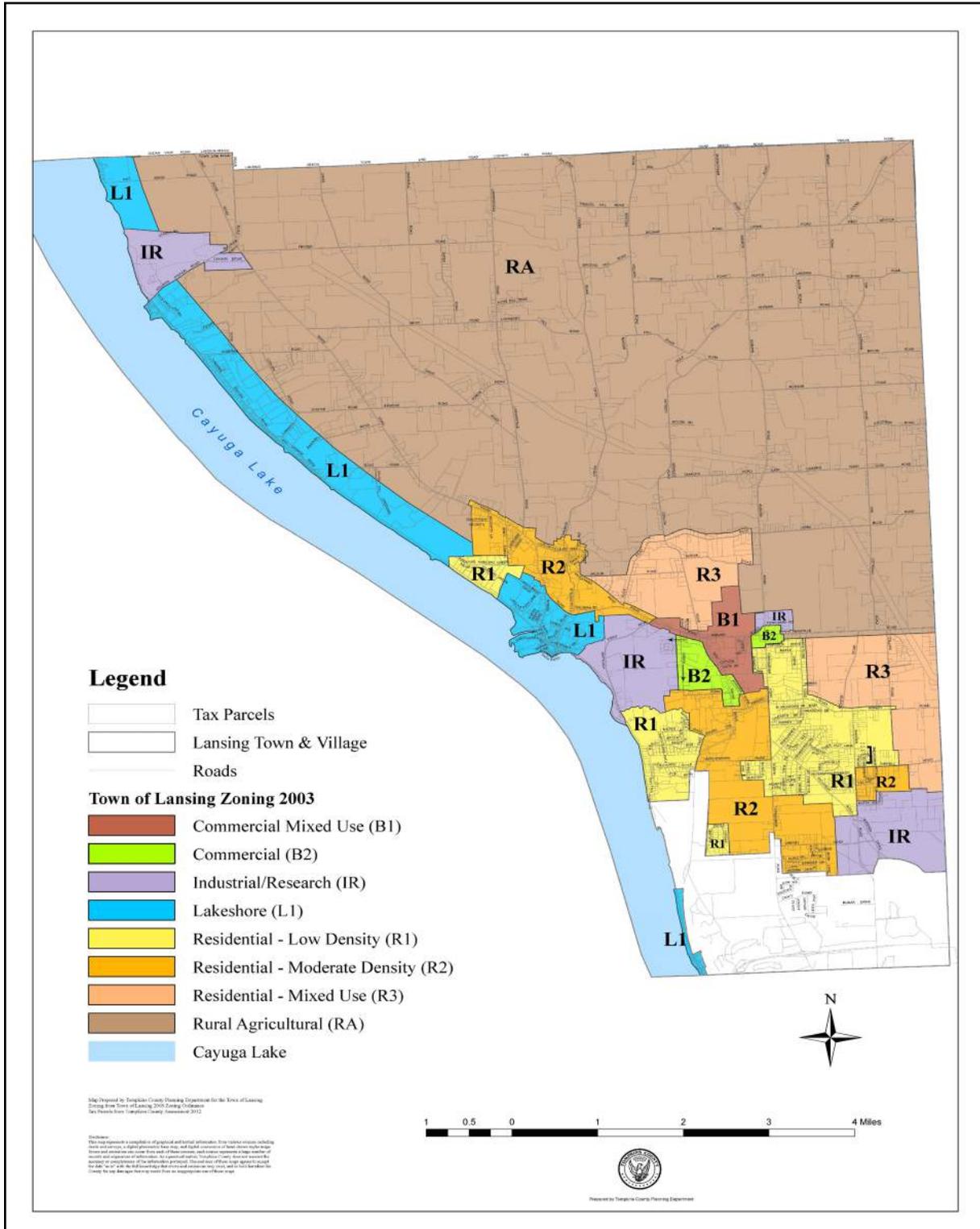
Community Perspectives on Alternative Transportation

According to open-ended survey conducted in advance of the town's comprehensive plan update, residents feel some degree of dissatisfaction about alternative transportation in the community. Concerns surrounded a number of different issues, including lack of sidewalks, crosswalks, crossing lights, crossing signs and bike lanes, traffic lights not long enough for pedestrians to get across, narrow shoulders, high speed limits, heavy truck traffic, poor visibility at night and absent lighting, lack of turning lanes along some roads, lack of road safety education for pedestrians and drivers, inadequate road maintenance for bikes and pedestrians terms of clearing snow and grass, lack of speed monitoring on roads, poor road conditions for the elderly, and blind spot on certain corners.

Because of the way the survey questions were formulated, most responses related to the state of the community's physical infrastructure for alternative modes. Fewer responses were recorded relating to commuting, mode choice, and community policy towards transit.

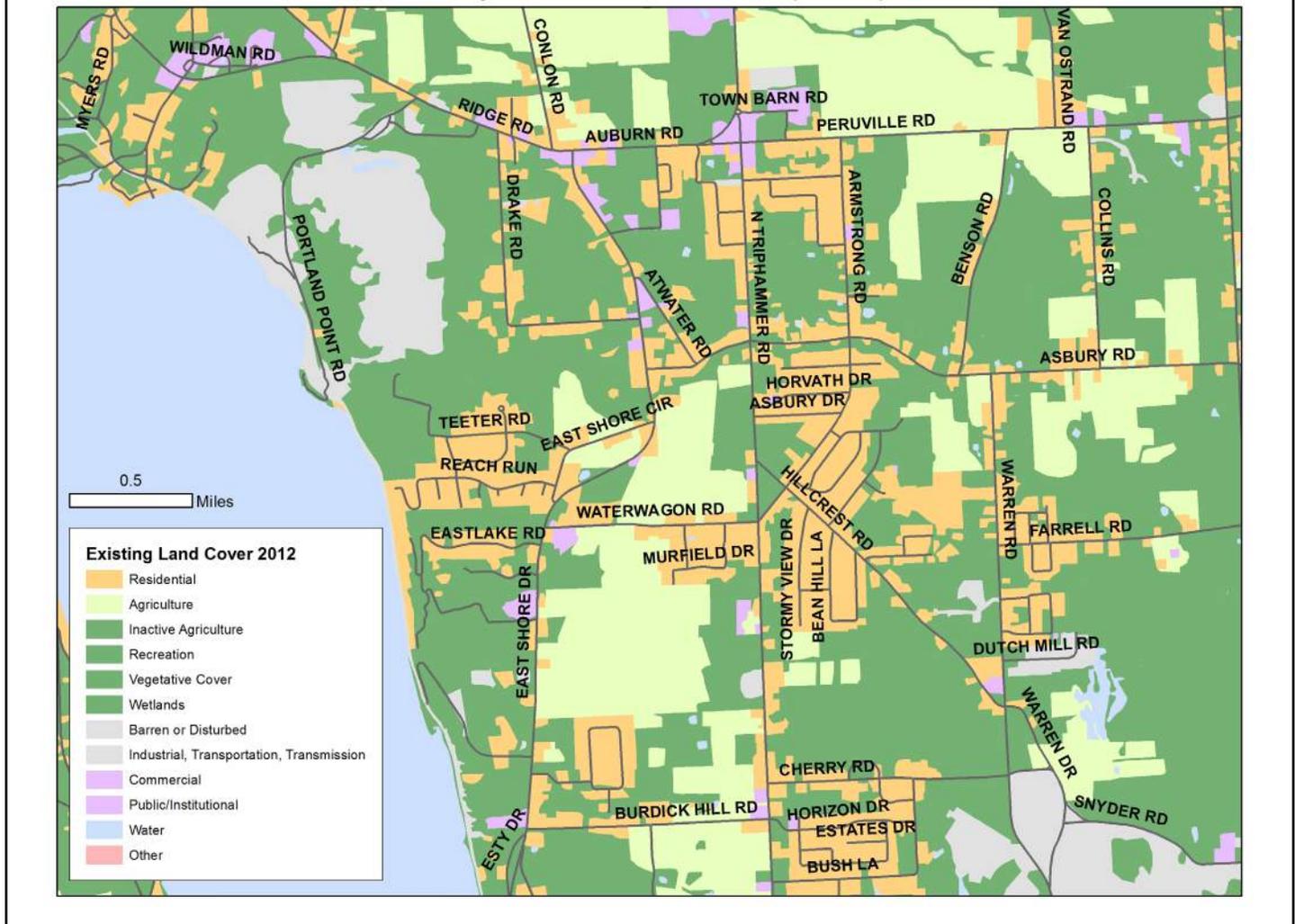
It is also worth noting that many survey respondents expressed satisfaction with the current state of the community's alternative transportation system, and were skeptical that the benefits of investment in new infrastructure would have a positive impact for taxpayers in the northernmost rural areas of the town.

Land Use and Density



The Town of Lansing's current zoning map.

Study Area Land Cover (2012)



Land cover within the study area varies, although significant areas are occupied by residential development, forestlands, and agricultural lands.

The Town of Lansing is currently divided into 8 distinct land control districts. The districts are Rural Agricultural, Lakeshore, Residential Low Density, Residential Moderate Density, Residential Mixed-Use, Commercial Mixed-Use, General Commercial, and Industrial/Research.

The vast majority of northern portions of the Town, outside of the study area, is zoned Rural Agricultural. The RA district is intended to support and preserve farming activities that have taken place within the community for centuries, although small scale residential development is allowed in this area. Low and Moderate Density Residential zoning, along with Lakeshore zoning, can be found along Route 34B in the area of the Lansing Schools, reflecting the higher development intensity in this area.



Within the study area, the zoning picture is somewhat more complicated. The study area is punctuated by a Commercial Mixed Use zone covering the town center area, intended to foster the development of a discernable town center with varied commercial and residential development forms. From the town center and the Village of Lansing line, a corridor of Moderate Density Residential spans the approximate area between Route 34 and Triphammer Road, two of the Town's busiest travel corridors. West of Route 34 on the Lakefront and east of Triphammer Road are areas of Low Density Residential. A large Industrial/Research area covers lands immediately to the north of the Ithaca Tompkins Regional Airport which include light manufacturing and offices. Finally, Residential Mixed Use districts intended to accommodate denser growth as infrastructure take shape are located to the east and north of the town center.

The densest single family residential development allowed under the current zoning code is possible in the Moderate Density Residential Zone, with a minimum lot size of 20000 square feet. In the Moderate Density Residential Zones and Mixed Use Commercial Zones, multi-unit residential can be developed at an intensity of up to 8000 sq. ft. per dwelling unit. In Low Density Residential zones, minimum lot size is 40000 sq. ft., or nearly one full acre. With the exception of the Rural Agricultural Zone, townwide height limits cap buildings at 35ft. All residential zones feature mandatory minimum front-facing setbacks of at least 30 ft, and minimum open space requirements on lots range from 85% to 20% in the densest commercial districts.

The Town currently mandates that one- and two- family residential units include a minimum of two off-street parking spaces. Residential developments with 3 or more units require 1.5 parking spaces per dwelling unit. Parking requirements for commercial, industrial, and civic uses vary significantly with proposed use.

Despite residential zoning, large tracts of agricultural, inactive agricultural, and wooded land remain intact along the southern and eastern edges of the town within the study area. Residential development has been most intensive in the area between Triphammer Road, Warren Road, and Asbury Road. On the fringes of undeveloped lands in the study area, division of land into fragmented single home lots along major street edges is a common practice.



Recent Trends and Short-Term Outlook

New Development

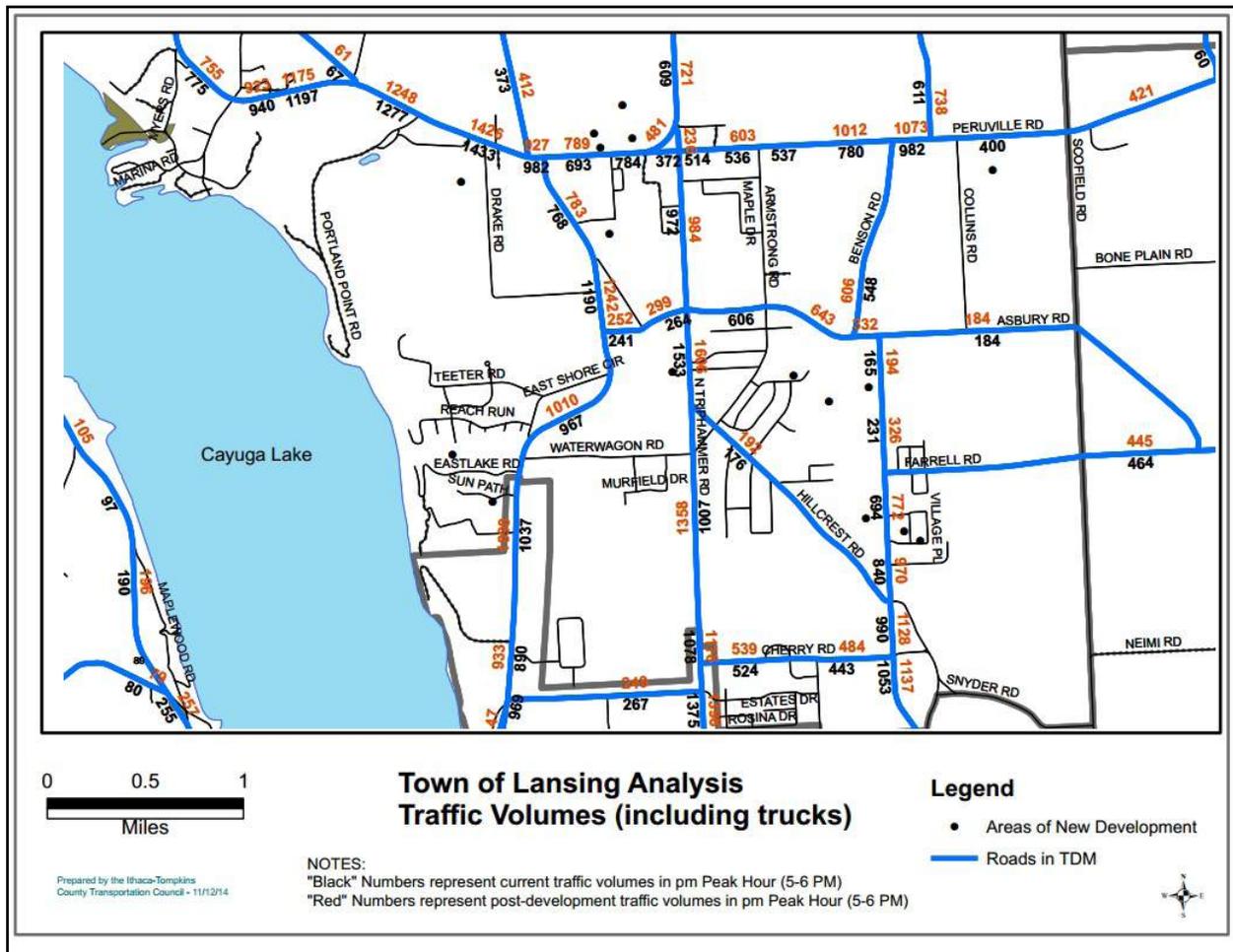
As of early 2014, nearly 20 unique residential development projects were in different phases of Lansing's development pipeline. The housing units expected to come into existence through these proposed projects number in the hundreds. While not all of the development proposals may come to pass, the projects currently in the pipeline offer a sense of what Lansing's near-term development future may look like. Distributed across the study area, they serve as a reasonable approximation of locations in which growth might be expected to appear and the overall number of units which might be added to the Town's housing stock on a shorter time horizon.

By entering the location and expected number of new units for each development into transportation models, it is possible to estimate how traffic volumes and flows might change in the community over the coming years. Using data supplied by the Design Connect team, the Ithaca - Tompkins County Transportation Council prepared models estimating how traffic volumes might change on the Town of Lansing's major roads as the currently-proposed developments take shape.

Proposed Development Name	Proposed Number of Units
Under Review as of May 2014	
Lake Forest Circle	17
Cayuga Farms Townhomes	102
Whispering Pines Phase VI	30
East Shore (Novalane)	7
Lake View	17
Sun Path	3
Plated and Approved as of May 2014	
Cayuga Way	12
Cottonwood	21
Pond Circle	8-10
Woodland Park	73
Lansing Commons	15
Village Solars / Circle Phase I	188
Under Discussion as of May 2014	
Village Solars / Circle Phase II	120
Green Square	60
NRP	80
Cornerstone	90
Calamar	125

The status of developments and approximate expected number of units to be developed.

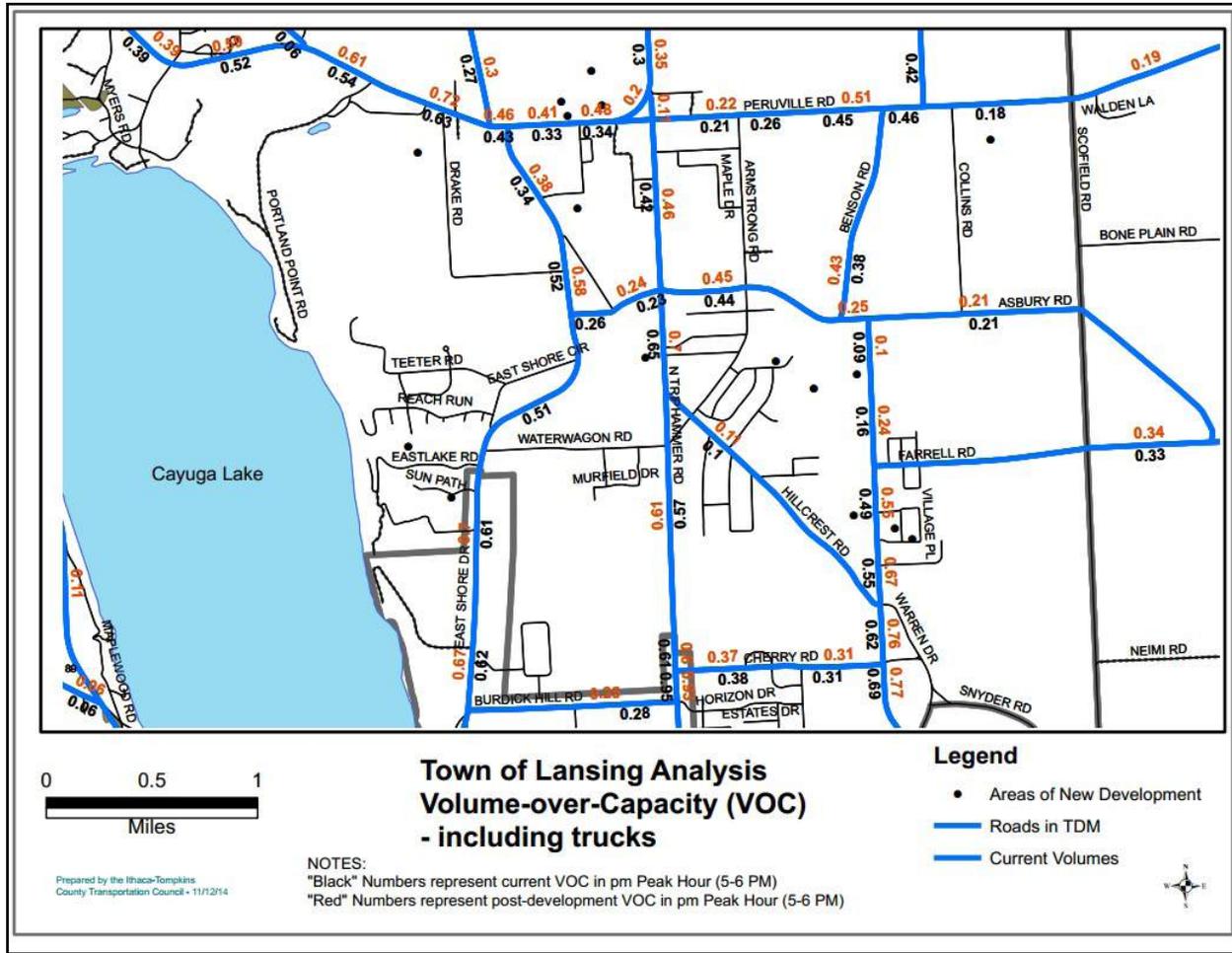
Traffic Modeling Results



Traffic counts can be expected to increase across the study area as new development takes shape, with pressures concentrated on major north-south roads.

Traffic count changes at selected locations:

Road	Existing Peak Hour Count	New Development Peak Hour Count	Percent Change
Route 34 at East Shore Circle	967	1010	4%
Route 34 at Town Center	981	927	-5%
Triphammer at Waterwagon	1007	1358	35%
Triphammer at Sharon Drive	972	984	1%
Triphammer at Village Line	1078	1118	4%
Hillcrest Road	176	192	9%
Asbury at Armstrong Road	606	643	6%
Warren at Cherry Road	1053	1137	8%
Warren at Hillcrest Road	990	1128	14%
Route 34B at Triphammer Road	536	603	13%



Traffic volumes will remain within road capacity limits in some areas, but threaten to exceed existing capacity in others. Warren Road and Route 34B in the town center show particular vulnerability to this issue.

VOC changes at selected locations:

Road	Existing VOC	New Development VOC	Net Change
Route 34 at Town Center	.34	.38	.04
Triphammer at Waterwagon	.57	.61	.04
Triphammer at Sharon Drive	.42	.46	.04
Triphammer at Village Line	.61	.60	-.01
Hillcrest Road	.1	.11	.01
Asbury at Armstrong Road	.45	.44	.01
Warren at Cherry Road	.62	.76	.14
Warren at Hillcrest Road	.55	.67	.12
Route 34B at Triphammer Road	.21	.22	.01
Town Center	.34	.48	.14



While some areas of the community are expected to experience no increase or only modest increases in traffic volume, several areas are projected to experience traffic volume increases nearing 10% during peak hours. Raw traffic volumes would increase the most along segments of Warren Road and in the Town Center area. There are limitations to modeling traffic increases - this model assumes no changes in development patterns outside of the town, and estimates vehicle usage on the basis of a variety of ever-changing factors. However, the modeling results are useful in visualizing how broad trends in traffic volume and directional flow may evolve as the town's built landscape changes.

By comparing the expected raw increase in traffic volume for each road segment to the capacity of that road segment, we begin to develop a sense of where congestion will increasingly become an issue of concern. Higher Volume-over-Capacity ratios indicate higher levels of congestion and a decreasing overall level of service. A VOC of 1 indicates that a road segment is fully at capacity; VOC's above 1 indicate that the road is above capacity, and VOC's approaching 1 indicate that the road is nearing its maximum capacity.

While many of Lansing's roads are projected to have traffic volumes stay well within capacity, several problem areas are also evident. Most notably, the town's three major north-south corridors (Route 34, Triphammer Road, and Warren Road) and Route 34B carry volumes that are significantly higher than their capacity relative to other roads in the community, and the southern segments of Warren Road are expected to experience negative changes in level of service under this development scenario.

Beyond congestion, it is likely that increasing traffic volumes through sensitive intersections and road segments could exacerbate the traffic safety issues that the community has already identified. Increasing numbers of vehicles passing through intersections such as Warren / Hillcrest, Waterwagon /34, Waterwagon / Triphammer, Asbury / Triphammer, and the Town Center may contribute to an uptick in vehicle-to-vehicle conflict in areas that are already notable for high accident frequency and severity. Residents along the east-west roads that span the town, including Hillcrest Rd, Waterwagon Rd, Asbury Rd, and Cherry Rd, may perceive slight increases in the number of vehicles cutting through neighborhoods to reach other parts of town, along with associated road noise and traffic speed impacts.

Recent Alternative Transportation Developments

Pedestrian and Bicycle

The Lansing Town Pathways Committee has spearheaded a recent push to connect residential areas to the town center as a part of a complete network of paths, both sidewalks and trails, to connect local schools, the town hall, Lansing Market, Myers Park, Salt Point, Ludlowville park, and the RINK with one another. Plans developed by the committee and endorsed by the town council express a need to connect neighboring communities with the paths as well. While current pathways in the town center area are largely recreational, the community's paths are eventually intended to be useful for commuting, traveling to school, visiting neighbors, and accessing services. Planning efforts have focused on the southern portion of the town, where most intensive residential development has occurred in recent years.

Despite the recent surge in interest towards a path network, on-the-ground developments have been few. The pathways committee has identified several steps to success in creating a trail system. Those steps include:

- A formalized process to contact landowners of property with the potential for trail development to link with existing trails or with unique natural areas and seek agreement for property easements. The contact work could be done by volunteers, perhaps from the Lansing Pathways Committee, with oversight from the Town Board. The Town Board, with legal advice, would also oversee easements.
- Coordination with neighboring communities to link to their trail systems, such as those in the Village of Lansing, the Town of Dryden and the Town of Ithaca.
- A Town policy for working with all developers to incorporate trails and open spaces in their plans that link to existing trails or planned trails.
- Clear communications with specific volunteer and community groups to coordinate work with the Town Parks and Recreation. Groups would include the Cayuga Bird Club, Boy and Girl Scout Troops, Lansing Pathways Committee.
- A plan for costs and maintenance of trails through a capital improvements budget, use of volunteer groups, grants from public and private funds.

Many local residents, particularly in the heavily agricultural areas of the community, are supportive of the trailways concept but skeptical that the benefits may not reach all parts of the community. Sustaining the push for new alternative transportation infrastructure, facilities, and amenities in the near future may be contingent on the identification of an outside funding source to support new investment.

Transit

If transit ridership is to become more viable in the community over the next several years, a number of obstacles need to be overcome. Development and enhancement of park and ride locales, improved communication tactics to raise awareness and improve passenger experience, and the addition of shelters and amenities at bus stops could raise the profile of the transit system and attract more riders. However, recent development trends will likely replicate many of the problems faced by existing neighborhoods - homes are too far-flung from bus routes, trips are too infrequent, and no incentives exist to draw individuals out of their cars. For this reason, the absence of a multi-modal transportation hub surrounded by higher-density neighborhoods will continue to be a barrier to improved transit access and ridership.

As community demographics change, the challenges posed by a lack of transportation alternatives will start to become more apparent. For example, more than 89% of respondents to the town's recent survey indicated that transportation improvements for the elderly and disabled represent a good use of community tax dollars. In the same survey, 86% of respondents felt that expansion of housing options for the elderly was a top priority, indicating that aging in the community is a clear concern. Despite this interest, and a steady demographic shift toward becoming an older community, mobility and accessible transportation lag far behind what is necessary to provide a quality existence to non-driving seniors. Less than one percent of respondents felt that Lansing distinguishes itself as a place to retire, perhaps because of transportation barriers and the absence of local goods and services. While the aging are just one example, short-term trends indicate that alternative transportation options may eventually be lacking for a variety of local groups.

Recent Land Use Trends and Impacts

A number of recent trends have shaped land use in the Town of Lansing. For one, the process of updating the comprehensive plan will eventually contribute to a revision of the community's zoning codes. According to a November 2013 report by the Town of Lansing, the Agriculture and Farmland Protection plan, one top priority is the protection of agriculture and farmland. Although a large share of residential development has occurred in South Lansing over the past 15 years, the Town has observed encroachment into the agricultural and rural areas of North Lansing. The town is concerned about the potential impacts of future development on farms as well as suburban sprawl.

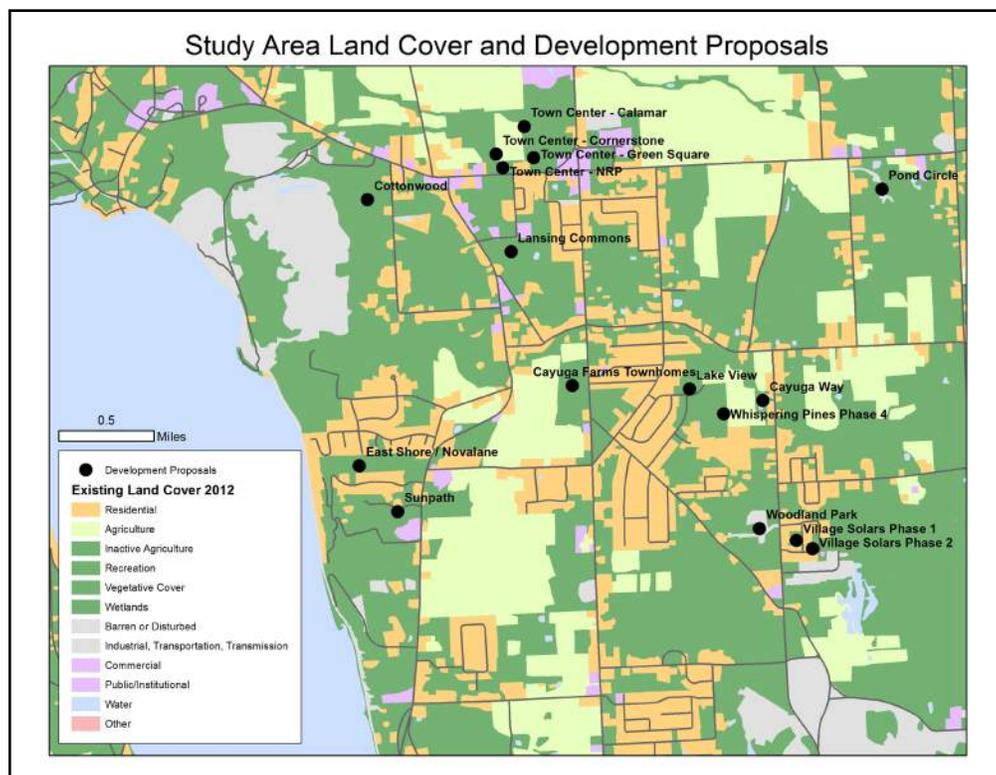
Over recent decades, residential development outside of the Village of Lansing grew at a rate 3 times faster than development within the village. (The area of the Town of Lansing outside of the Village is 41,835 acres.) Although the current policies and community support for agriculture has created a favorable farming climate, residents have observed that this high rate of development has had a negative impact on farming in many ways. The town has also observed that rural sprawl results in a more expensive process in the delivery of services to residents, such as water, sewage, well maintained roads, and lighting.

As a result of these concerns, the town is hoping to rezone much of the RA zoning district to an agricultural zone, disallow uses least compatible with farming, and revise the definition of agriculture in the zoning code. They hope to "encourage in-fill development in South Lansing to reduce rural sprawl and the associated costs of infrastructure development," and to explore opportunities and properties to fund and preserve the farmland.

The following are among the recommendations proposed by the Town of Lansing in order to achieve their goals of farmland protection and reducing suburban sprawl, while allowing adequate development for their growing population:

- Avoid sprawl by focusing and promoting development in areas where adequate infrastructure and services already exist or can be easily upgraded.
- Preserve and protect lands that contain steep slopes; federal, state or locally designated wetlands; environmentally important areas (such as quality wildlife or plant habitats); forests and woodlots; and agriculture.
- Require development to take the form of cluster and/or conservation subdivisions in environmentally, agriculturally, and visually sensitive areas.
- Establish more intensively developed mixed use neighborhoods in and near the Town Center.

- Limit the acreage of land zoned for commercial and light industrial uses in the Town. Discourage strip commercial development through appropriate zoning mechanisms. Limit heavy industry to existing Industrial/Research (IR) Districts.
- Redevelop or retrofit aging or abandoned industrial or commercial sites, where feasible.
- Ensure that new development is sensitive to the community's scenic values. Develop a scenic resources inventory.
- Encourage new development to contain a mix of uses and recreation spaces that support the daily needs of residents. Locate mixed uses in appropriate areas and in suitable building types.
- Provide a variety of housing types and prices that support a broad range of household types, sizes, lifestyles, life stages, and household incomes in new developments.
- Incorporate suitable sustainable development practices (such as LEED certification and alternative energy production) in the design and construction of new developments.
- Limit intrusion of non-agricultural uses into agricultural and conservation areas. Buffer farms from neighboring development.
- Low density residential uses should be limited to areas that have marginal or no value as agricultural or conservation areas, and which are not anticipated to be served by public water or sewer.
- Discourage frontage ("strip") residential lots, especially in prime agricultural areas.



Development under existing zoning will radically alter land cover in the study area.

Town Center Trends and Developments

During a Comprehensive Plan Committee meeting on November 13, 2012 a SWOT (strengths, weaknesses, opportunities and threats) analysis identified the lack of a Town Center as a future threat that could impact the Town of Lansing. The Town of Lansing has identified goals and objectives around creating a Town Center through its Comprehensive Plan. The Town Center area consists largely of some 140 acres of town owned land located along 34B in between East Shore Drive to the west and Triphammer Road to the east. It is zoned for commercial mixed use which allows most business and commercial uses, housing, mixed-use, recreation, and some light assembly and manufacturing. The Town Center Policy Plan indicates the desire for higher density housing, commercial services and recreational opportunities that cater to the needs of local residents, increase the tax base and create a greater sense of community in Lansing.

If the Town Center is developed, it is likely that the intersection of East Shore Road and 34B will experience increased traffic congestion during peak hours, which has been cited by residents and assessments as an area of concern for both congestion and safety reasons. Residential development south of 34B will likely increase traffic congestion for school related travel in the morning and afternoon.

Local firm Holt Architects submitted a Town Center Plan in 2010 that articulated seven goals, which included community identity and character, acknowledgment of Town Center activity (new town hall, renovated library, historic grange), increased density, mixed land uses, pedestrian focus, consolidated parking and public sewers. During a public meeting, seventy Lansing residents raised 6 key issues that included the necessity of strategy, connections to unify the community, improvement of community services, support of small local business development, the presence of housing in the Town Center, and the promotion of green space.



Existing Historic School House with Parking Lot



Existing Lansing Library and Grange with Parking Lot



Proposed Historic School House with Town Green



Proposed Lansing Library and Grange with Town Green



Existing Main Street



Existing Abandoned Railroad Line



Proposed Main Street Improvements



Proposed Jogging Trail

Proposed designs for the town center area from the Holt Town Center Plan.

Recommendations and Long-Term Outlook

While long-term outlooks for the Town of Lansing's transportation system are difficult to characterize and largely dependent on design and policy interventions adopted over the coming years, near-term trends provide a basis for assessing future conditions if patterns remain unchanged.

Based on patterns identified in short term traffic change projections, congestion and traffic incidents can be expected to increase in the study area if development continues at a consistent rate. Locations already identified as congested or dangerous, such as Warren Road, Triphammer Road, Route 34, the town center intersections, and intersections with Asbury Road, Waterwagon Road, Hillcrest Road, and East Shore Circle, will continue to present problems for public safety, commuting, and alternative transportation as traffic volumes increase. It will be difficult for the community to expand capacity to accommodate new growth without further compromising community character, yet without expanding capacity, certain problems may be exacerbated. Thus, in accordance with many of the goals identified during the development of the town's new comprehensive plans, alternative approaches will need to be adopted to help the community mitigate against impending problems without costly and unpopular capacity increases.

Further expansion of the community's housing stock without some form of investment in alternative transit infrastructure will continue to make potential bikers, walkers, and transit users feel unsafe and potentially alienated as users of the Lansing transportation system. The viability of alternatives to single-occupancy vehicles will also be influenced by changes to the community's road networks and the physical form of new development. With many large-lot, low-density, residential-only developments on the horizon, offering pedestrian and bike infrastructure that provides meaningful connections to services and landmarks will be increasingly difficult. Travel by these modes, as well as by bus, will be further frustrated by the expanded use of dead ends, cul-de-sacs, and gated communities, which will continue to enable auto drivers. Significant local interest and momentum behind the development of a town-wide trail system could change Lansing's long-term alternative transportation outlooks, but the overall viability of these modes is closely interlinked with a number of other factors.

From a regional connectivity perspective, barring any major structural changes, the southern portion of the town of Lansing will likely continue to serve as a bedroom community for Ithaca professionals and other workers. Forces outside the region will continue to be the focus of commuting activity. In moving town residents between their neighborhoods and major employers elsewhere in the region, the major north-south corridors of Route 34, Triphammer Road, and Warren Road will continue to function as essential linkages. In the long term, the way development and transportation infrastructure take shape along these corridors will have an outsized influence on the feasibility of commuting via different modes and perceptions of the transportation system for commuters.

The interplay between new development, land use, density, zoning regulations, and transportation will continue to be a primary influence on Lansing's transportation future. Without density increases from infill development, cluster development, retrofits of existing buildings, relaxation of height limits, and density bonuses, land use patterns are likely to further reinforce the auto-oriented culture of Lansing and pose challenges to the adoption of other modes of travel. The associated costs of developing and maintaining Lansing's vehicle infrastructure can be expected to continue to rise. However, significant community desires exist for reduced pressure on sensitive views and habitats, reduced conflict between development and agricultural character, and a more cohesive community center. If these desires win out, favorable changes in traffic conditions and the greater transportation system could result on the longterm. Past studies examining travel countywide have indicated that by tailoring practices to densify communities and preserve existing open space, Tompkins County municipalities could slow the rate of increase in VMT and emissions generation by up to 45%. It is likely that constraints intended to focus new growth in already-developed areas and around transit could generate similar effects in the Town of Lansing.

Concentration of new growth into more dense and diverse clusters, especially in the town center area, through expansion of services, pedestrian infrastructure, and walkable higher-density housing, could offer an opportunity for local residents to address some of their needs in the immediate community rather than travelling to neighboring locales to take advantage of businesses and services. If some form of new development takes shape in the town center location, the community could add to available housing stock while potentially reducing the overall number of vehicle trips generated per residential unit. Town center development could compliment the existing TCAT bus stops in the area and, together with a multi-modal trail, reinforce perceptions of the area as a hub of both transportation and community life. While the long-term future of the town center remains somewhat unclear, many of the goals expressed in the Lansing's existing plans for the area are consistent with improving the transportation system community-wide.



Interpreting the Recommendations Matrix

A variety of best practices are relevant to the issues and challenges identified in this review of the Town of Lansing's transportation system; many of those policies and design interventions are summarized in the following table.

This guide is not intended to serve as a comprehensive program of transportation reform. Rather, it functions as a tool kit, with information on techniques that have helped other communities improve their transportation systems, opportunities to financially support different projects, and outside sources with additional details. Although the matrix includes recommended locations for each intervention, not every tool is appropriate in every place. With these tools and resources as a guide, town leadership and Lansing residents work together to identify high priority, location-appropriate projects to pursue.

Recommendations Matrix

Proposed Intervention:	Location:	Additional Details and Potential Benefits:	Supporting Proposed Intervention:	Additional Resources (case studies, design guides, policy guides, manuals, websites):
Sidewalks, Crosswalks, Pedestrian Signage, and Visibility Improvements	Sidewalks: Town Center Crosswalks: Intersections of Waterwagon & East Shore Drive + Intersections of Waterwagon & Triphammer	Improve safety for pedestrians, including the elderly, students, and those walking to work; lower accident rates; encourage sidewalk uses, strengthen community character	<p>Transportation Alternatives Program Provides funding for on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, and community improvement activities. Safe Routes to School projects are currently also funded through the Transportation Alternatives Program</p> <p>Development Impact Fees Developers support infrastructure investments to offset the impacts of new growth</p>	<p>Design Manual for Small Towns Transportation and Land Use Strategies for Preserving Small-Town Character</p> <p>Weedsport NY Complete Streets A local case study with examples of a complete streets policy</p>
Bike Lanes and Widened Shoulders	Waterwagon Road, Ashbury Road, 34B/Peruville road	Improve bicycle safety, encourage commuting by bicycle, improve road network connectivity for non-drivers. Interventions as simple as road restriping can have a significant effect on the cycling experience	<p>National Scenic Byways Program Funding for eligible projects along portions of Route 34 and 34B comprising the Cayuga Lake Scenic Byway</p> <p>CDC Community Transformation Grant Small Communities Program Provides funds for projects, including transportation-related investments, that support active living, healthy & safe physical environments, and physical activity.</p>	<p>PEDSAFE Guidelines for Sidewalks and Walkways A guide to proper street design for pedestrians and bikes</p>

Street Amenities	Town Center	Street trees and landscaping, decorative lighting, trash cans, and street furniture would improve quality of the pedestrian environment, promote walking, increase pedestrian comfort level	New York Main Street Program Funding for streetscape enhancements, including trees, furniture, and trash cans NYS Rural Area Revitalization Projects Supports restoration and improvement of public / community facilities and commercial areas in rural parts of the state	
Bus Stop Amenities	Town Center, Warren Road, Triphammer Road, Route 34	Permanent shelters, benches, trash cans, bike racks, lighting, and signage can improve transit system safety and comfort, increase visibility, and generate increased awareness of the presence of transit in the community	Collaboration with TCAT	Guidelines for the Location and Design of Bus Stops A resource from the Transit Cooperative Research Program

<p>Multi-Use Trail</p>	<p>Alongside one major north-south corridor between the town center and Village of Lansing, between the town center and Town of Lansing Schools</p>	<p>Promote commuting by bike, provide recreational opportunities, improve pedestrian safety, enhance tourism potential. Trail would ideally connect schools, town center, and goods and services in the Village of Lansing.</p>	<p>Recreational Trails Grant Program The Recreational Trails Program is a State-administered, Federal assistance program to provide and maintain recreational trails for both motorized and non-motorized recreational trail use</p> <p>Transportation Enhancement Program NYSDOT-administered funds for provision of facilities for pedestrians and bicyclists, including preservation of abandoned rail corridors for trail uses. Reimburses up to 80% of project costs.</p> <p>NYS Environmental Protection Fund: Local Waterfront Revitalization Program Grants Supports implementation of plans for waterfront areas along designated state inland waterways, including Cayuga Lake. Past projects include multi-use trail systems.</p>	<p>Guides for Trail Design, Construction, Maintenance, and Operation A collection of resources from the Federal Highway Administration</p>
<p>Gateway Signage</p>	<p>Entry points to Town Center</p>	<p>Signage and plantings signal to drivers that they are entering a distinct neighborhood, which reinforces the urge to slow down and observe surroundings</p>	<p>New York Main Street Program Funding for streetscape enhancements, including signage</p>	<p>Urban Wayfinding Planning and Design Manual A resource covering design and implementation of signage systems from the Signage Foundation</p>

Traffic Calming	East-west roads connecting major commuter corridors, including Waterwagon Road, Asbury Road, and Hillcrest Road	Speed tables, landscaped medians, and curb extensions can discourage high-speed cut-throughs, improve intersection safety, reduce road noise, provide pedestrian refuge on major streets	Consolidated Local Street and Highway Improvement Program (CHIPS) Administered by NYSDOT, and supports bicycle, pedestrian, and traffic calming measures Highway Safety Improvement Program / High-Risk Rural Roads Program NYSDOT funds traffic control, road reconstruction, and other capital improvements	Traffic Calming on Main Roads Through Rural Communities A design and policy guide from the Federal Highway Administration
Expanded Design Standards and Guidelines, Site Improvement Requirements	Town-wide	Requirements could include: smaller block lengths, smaller setbacks, detailed standards for site layout and building configuration, reduced minimum open space requirements, infrastructure for pedestrians and bicyclists, parking and driveway guidelines, height and massing standards, sustainable landscape requirements, restrictions on cul-de-sacs and gated residential areas	Community Challenge Planning Grants Program Supports community efforts to adopt and adapt zoning codes, comprehensive plans, neighborhood plans, and corridor plans with goals that contribute to local sustainability	Smart Growth America Code and Zoning Audit Checklist for identifying areas of community codes that could be strengthened to promote responsible development Smart Growth America Policy Audit Checklist for reviewing community policy for consistency with sustainable development tactics
Density Bonuses / Amended Density Requirements	Town Center, transit corridors	Could be tailored to provide for trail and path provision, resource protection, and public open space. Paired with reduced parking requirements in transit corridors, density bonuses could also promote transit ridership, biking, and walking	US EPA Building Blocks for Sustainable Communities Supports a range of planning efforts, including sustainable growth strategies for rural communities	Density Bonuses A guide to density bonus policy, case studies, and major issues from the Puget Sound Regional Council

Transfer of Development Rights Program / Infill Incentives	<p>Sending Zones: Rural Agricultural Zone</p> <p>Receiving Zones: Town Center, major transit nodes in higher-density residential areas</p>	Draws development pressure away from rural and agricultural land, while still allowing rural landowners to profit from the sale of development rights. Channels new growth into receiving areas identified by the communities as a community center or transit hub	US EPA Smart Growth Implementation Assistance Program Offers contractor team support to communities working to develop policies supporting economic development while protecting environmental health	Infill Development: Completing the Community Fabric A guide to infill development incentives, policies, and case studies from the Municipal Research and Services Center
Transit-Oriented Development Overlay Zones	Town Center, major transit corridors, major commuting corridors	Overlay zones with unique requirements surrounding density, urban design, transportation amenities, and mixed land uses can create new development possibilities and shift population centers closer to quick and easy transportation access, reducing reliance on single-passenger auto trips		TOD Overlay District Model Bylaws Sample legislation from the Massachusetts Smart Growth Toolkit
Impact Fees	Town-Wide	Allows the community to support infrastructure improvements and expansion of public services with financial contributions from developers		Impact Fees A guide explaining impact fees, discussing different fee structures, and listing benefits and drawbacks of development fees from the Municipal Research and Services Center
Adequate Public Facilities Ordinance	N/A	Helps to moderate the speed of new development so that infrastructure and public services can keep pace		Adequate Public Facilities Ordinances A guide from the Maryland Department of Planning explaining the background of APFO's, their benefits, and their drawbacks
Relaxed Accessory Unit Restrictions	Town Center area, transit corridors	Increase density and provide affordable housing for a mix of residents while easing development pressures on open land		Model Bylaw for Accessory Dwelling Units Sample legislation from the Massachusetts Smart Growth Toolkit

Alternative Transit Outreach and Education	N / A	Promote and coordinate carpools and park-and-ride, subsidize transit passes for town employees, distribute materials to students		Traffic Safety Training: Walking and Bicycling Programs Recommended education program content for school programs
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