

## Memorandum

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

**FROM:** Meghan Vitale, SMTC

**DATE:** November 7, 2014

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

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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.

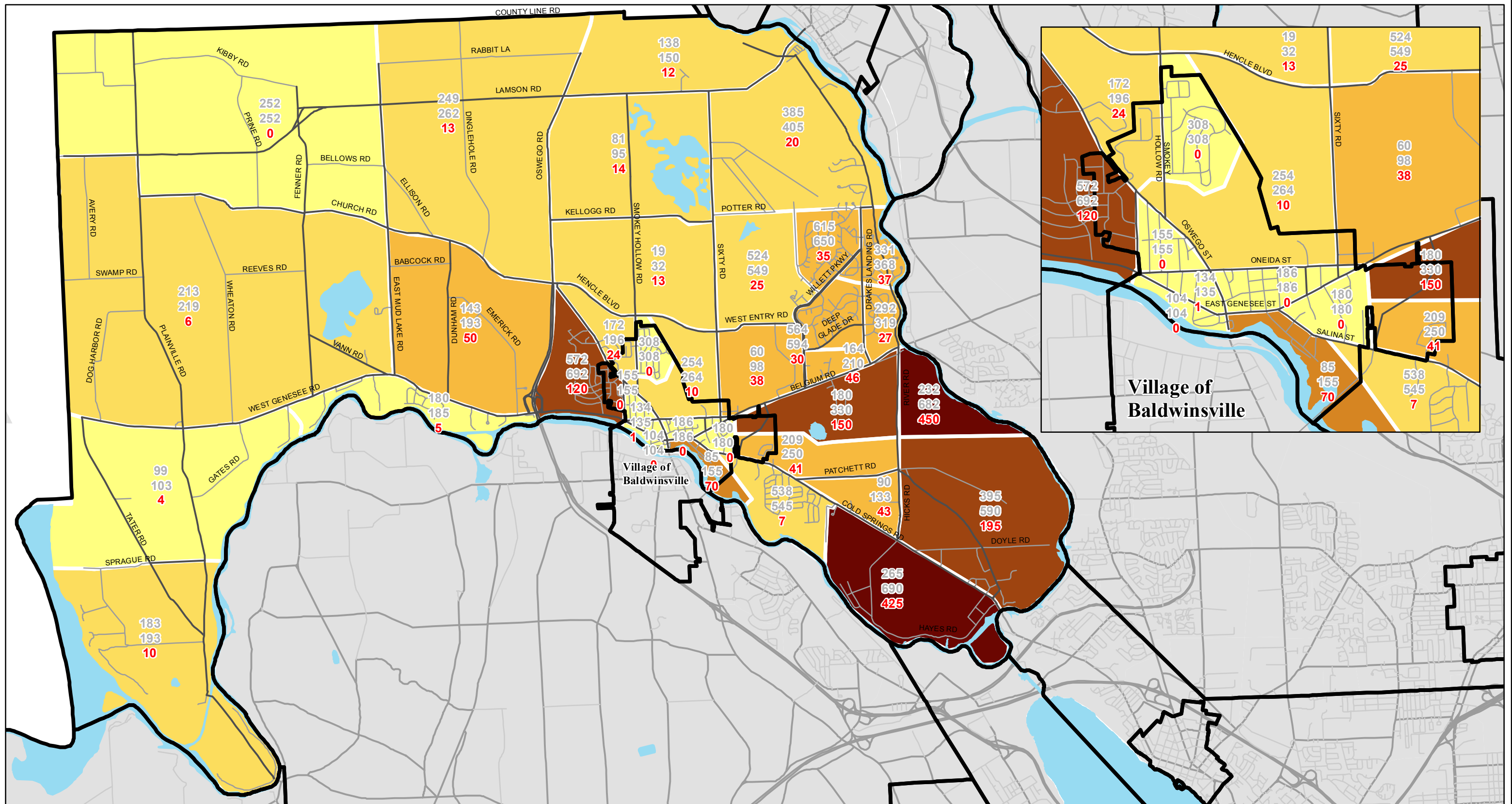
*Anticipated future build scenario – 2050 Future Base conditions*

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 %           |



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0 0.5 1 2 Miles

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

# Figure 1

## Town of Lysander

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

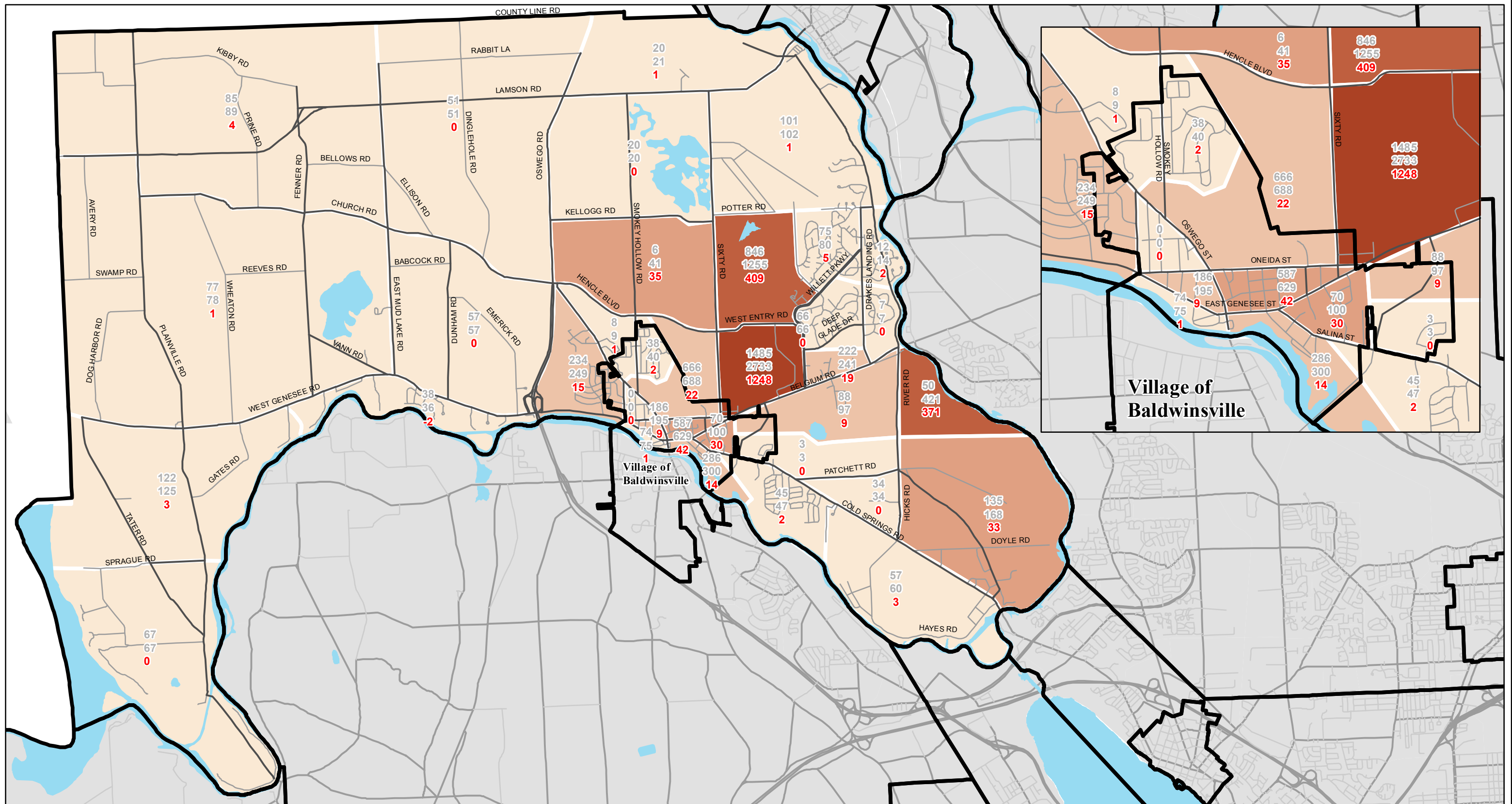
This map is for presentation purposes only.  
The SMTC does not guarantee the accuracy or completeness of this map.

| 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 +



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## Figure 2

### Town of Lysander

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

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#### 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)

-5 - 5  
6 - 25  
26 - 50  
51 - 200  
201 - 500  
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:

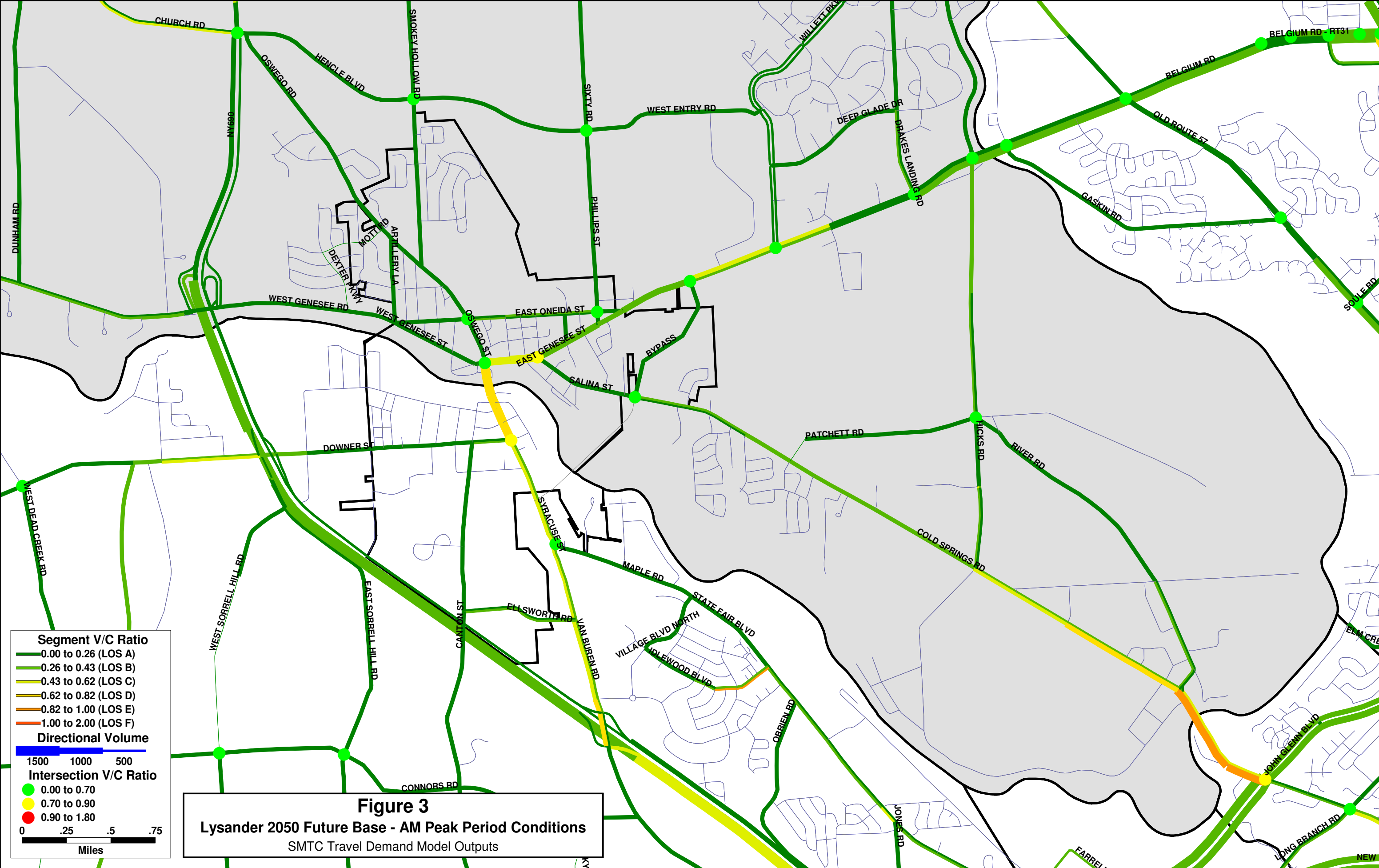
- Reduced V/C ratio (i.e. “better” operations with less delay) at the Route 370/John Glenn Boulevard intersection
- Reduced V/C ratios along Route 370 from Hicks Road to John Glenn Boulevard

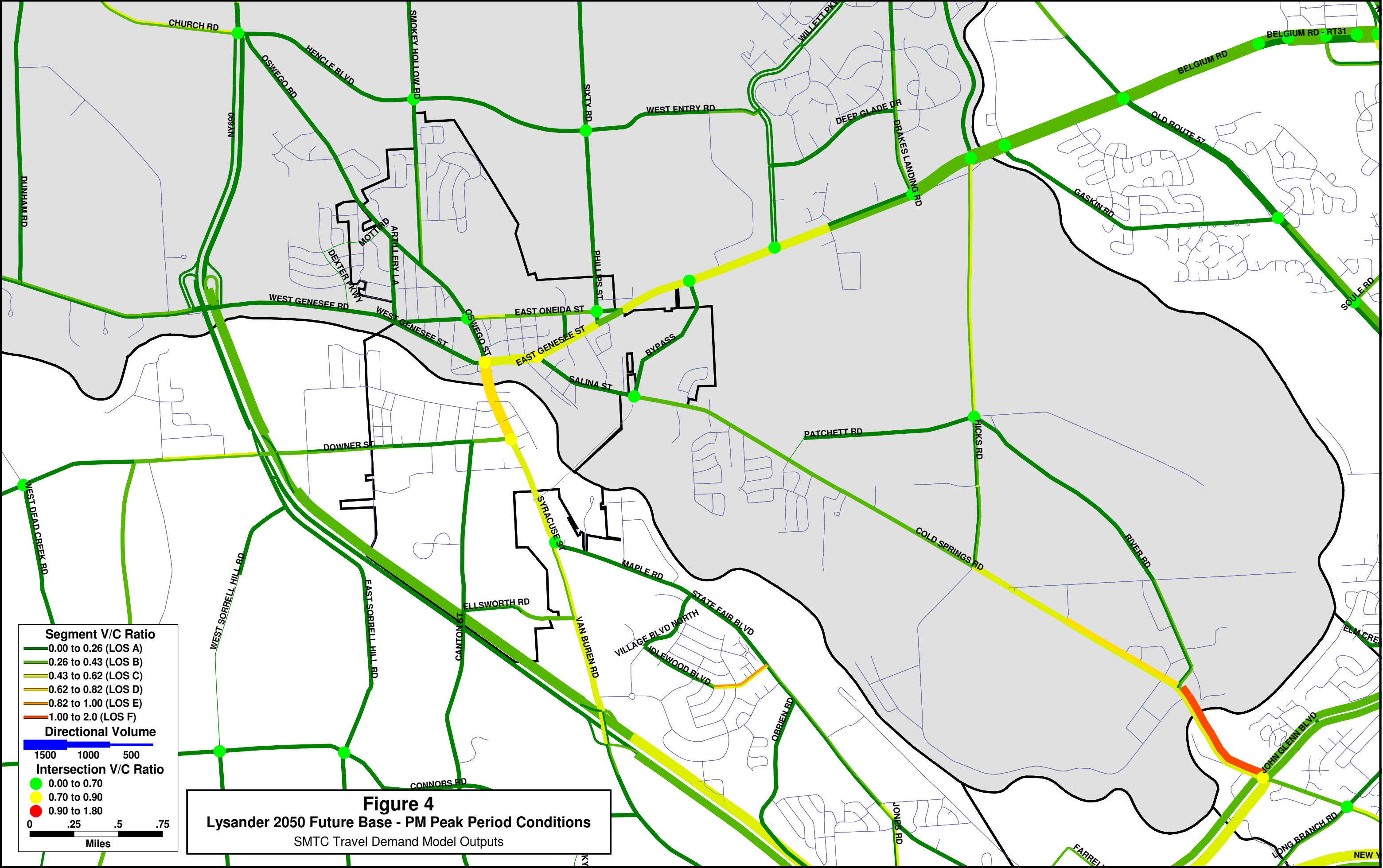
- Very low V/C ratios at the Route 370/Hicks Road and Route 370/River Road intersections with signalization.

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.

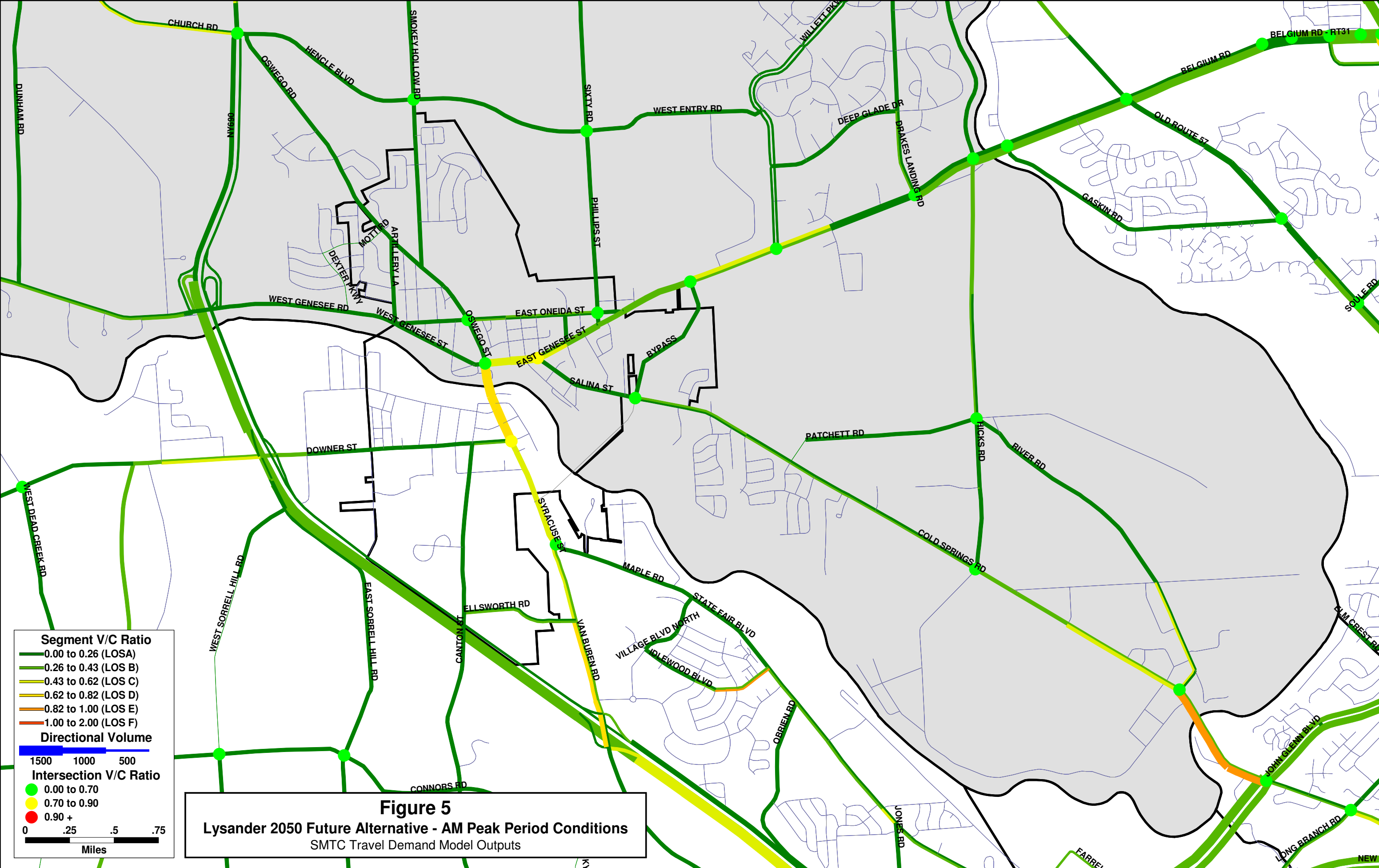
Regarding Route 370/Hicks Road/Hayes Road, the *Route 370 Corridor Management Plan* stated that “the installation of a traffic signal at this location would help to optimize movement through the intersection, reduce delays, promote use of the controlled intersection instead of the uncontrolled River 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).

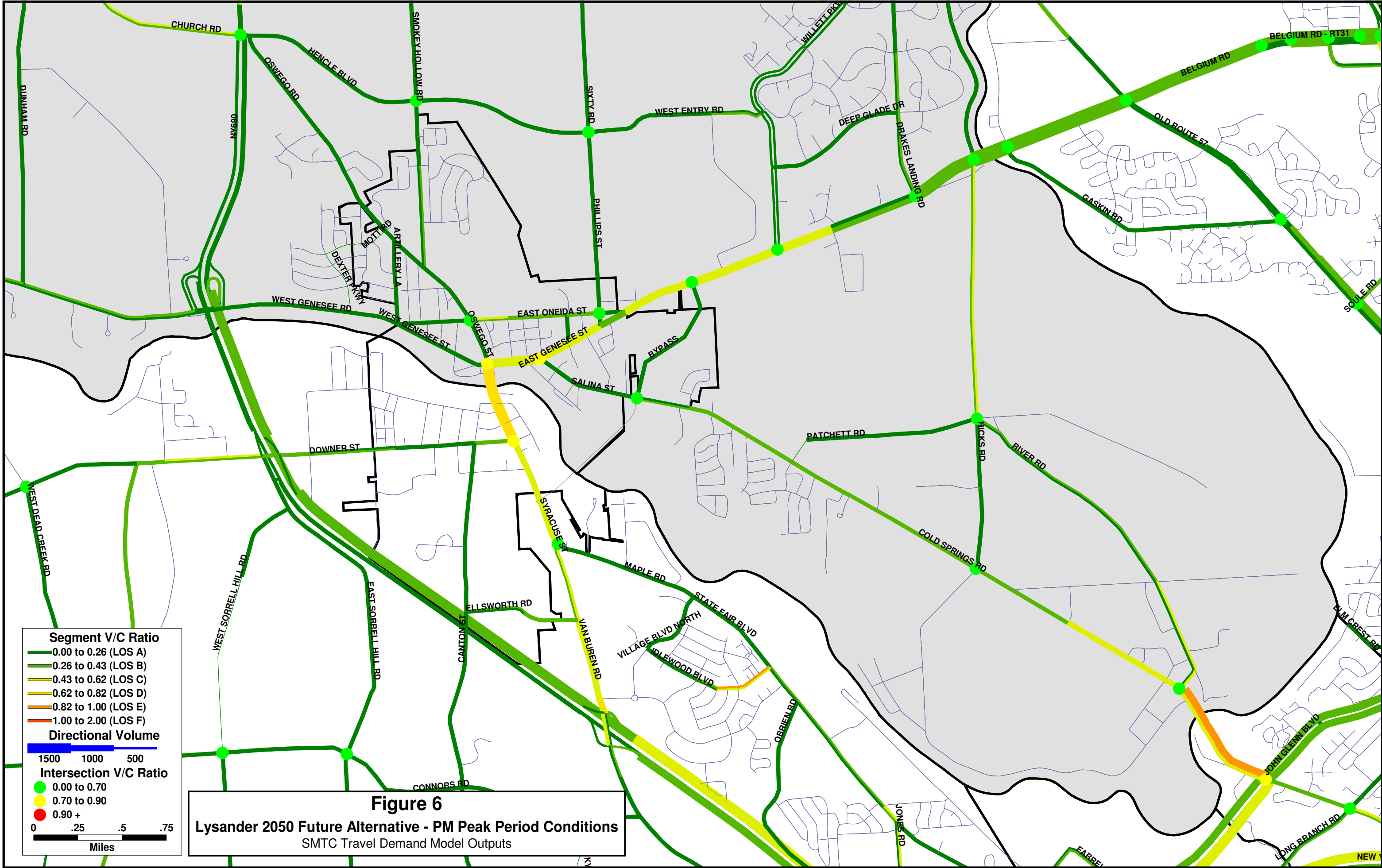
The *Route 370 Corridor Management Plan* recommended periodic re-evaluation of the Route 370/River Road location for signalization. Installation of a traffic signal and associated turn lane additions were estimated to cost in excess of \$250,000 (in 2008 dollars). The Timber Banks assessment also suggested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











### *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.