



## Memorandum

**TO:** Megan Costa, SOCPA  
Sam Gordon, Town of DeWitt  
Jeanie Gleisner, CNYRPDB

**FROM:** Meghan Vitale

**DATE:** July 27, 2016

**RE:** Jamesville Hamlet Transportation Assessment  
Technical Memorandum #1: Inventory of transportation facilities and accident analysis

**CC:** John Reichert, Diana Miller, NYSDOT

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The Syracuse Metropolitan Transportation Council (SMTC) has agreed to assist municipalities within our Metropolitan Planning Area (MPA) with transportation-related elements of their comprehensive planning processes under a “Comprehensive Plan Assistance Block” as requested by the Syracuse-Onondaga County Planning Agency (SOCPA). The information summarized here is intended to assist the Town of DeWitt and the Central New York Regional Planning and Development Board (CNYRPDB) with the development of the Jamesville Hamlet Master Plan.

This Technical Memo summarizes the SMTC’s initial inventory of transportation facilities in the study area and an analysis of available accident data.

### **Inventory of Existing Conditions**

The SMTC has documented the road ownership, functional classification, pavement condition rating, bridge ownership, bridge condition rating, available traffic volume data, rail crossings, and presence of bicycle or pedestrian facilities along the following road segments:

- Route 173 from the Town of Onondaga boundary to the Town of Manlius boundary
- Jamesville Road/North Street from I-481 to Route 173
- South Street/Apulia Road from Route 173 to Jamesville Beach Park entrance
- Route 91 from Route 173 to Taylor Road.

These roads are shown on Map 1 (Study Area Overview). This was primarily a desktop inventory using existing GIS and other data sources, with some initial field review of the area.

The study area includes the hamlet of Jamesville, centered at the intersection of Route 173 with North Street and South Street. Notable nearby land uses include the Hanson Quarry, Clark Reservation State Park, the Jamesville Reservoir, and Jamesville Beach Park. The majority of the study area is within the Town of DeWitt, although portions of Apulia Road and Route 91 are in the Town of LaFayette (south of Bamerick Road and the Onondaga County Department of Transportation [OCDOT] garage entrance road, respectively).

There is a rail line that passes directly through the hamlet center, crossing Route 173 at-grade between North Street and South Street. This is the Syracuse Main Line of the New York Susquehanna & Western Railroad, a regional (Class II) carrier.

None of the study area road segments are identified as primary freight corridors by the SMTC. Route 173 through the Town of DeWitt, Route 91, and North Street/Jamesville Road from Route 173 to I-481 are identified as secondary commuter corridors. Since none of these road segments are identified as either primary freight or primary commuter corridors, these segments were not examined in the SMTC's most recent (2015) Congestion Management Process.



*At-grade crossing of the NYS&W railroad on Route 173 in Jamesville.*

#### *Road Ownership*

As shown on Map 2, Route 173 and Route 91 (Pompey Road) are owned by the New York State Department of Transportation (NYSDOT). North Street/Jamesville Road and South Street/Apulvia Road are owned by Onondaga County. Most of the remaining roads within the study area are locally-owned (by the town), with a few private roads.

#### *Functional Classification*

Map 3 shows functional classification in the study area. Functional classification, or “functional class,” categorizes roads according to their character and the role they play in the transportation network. This classification puts roads into categories ranging from interstates, which are designed for high-speed trips between cities, to low-speed local roads, which provide access to individual properties. Roads are also classified as being urban or rural based on the Urban Area Boundary, which is primarily dependent on population density reported in the most recent Census.

Functional classifications are directly related to federal-aid eligibility, which determines whether a road may receive federal transportation funding. Principal arterials, minor arterials, and major collectors are federal-aid eligible (also known as “FAE roads”). Minor collectors and local roads (urban and rural) are not federal-aid eligible.

Route 173 and North Street are classified as minor arterials. These roads are designed to provide a high level of mobility and to deliver traffic from collector roads to principal arterials. North Street provides access to the Interstate system via Exit 2 on I-481 at the northern edge of the study area. Within the study area, Route 173 is a significant east-west connection between the Town of Onondaga and the Town of Manlius.

#### *Traffic Volumes*

The annual average daily traffic, or AADT, is the total daily traffic averaged over a full year and is expressed in vehicles per day. AADT is typically estimated for a road segment based on a sample count taken over a few days. Current AADT estimates for the primary roads within the study area are shown on Map 4. AADT is typically not available for local streets.

The highest AADT in the study area is on Route 173 between North Street and Solvay Road. The AADT in this short segment at the center of the hamlet is 13,205 vehicles per day. Beyond this segment, Route 173 generally carries between 6,300 and 9,375 vehicles per day through the Town of DeWitt. North Street near the I-481 ramps also has a high AADT, with over 12,700 vehicles per day.

Traffic volumes are considerably lower on the roads south of Route 173. Route 91 (Pompey Road) and South Street/Apulia Road both have relatively low traffic volumes, with fewer than 4,350 cars per day.

#### *Pavement Ratings*

Pavement rating is conducted for all federal-aid eligible roads using the NYSDOT Pavement Condition Rating Scale, which uses a numeric rating to place pavement into four categories: poor, fair, good, or excellent.

Map 5 shows pavement ratings on the FAE roads in the study area. The road segment carrying the highest traffic volumes – Route 173 between North Street and Solvay Road – has pavement in poor condition. The remainder of Route 173 in the study area has pavement in fair condition. Route 91 also received a poor pavement condition rating. The pavements on North Street and South Streets are rated in good condition.

#### *Bridge Ownership and Condition Ratings*

The NYSDOT defines a bridge as a structure that is erected over a depression or an obstruction (such as water) and that has a track or passageway for carrying public traffic. Bridges are rated on a scale of 1.0 to 7.0. Bridges with a rating below 5.0 are considered deficient and are candidates for rehabilitation work, replacement, or closure. A significant portion of Transportation Improvement Program (TIP) funds are devoted to maintaining bridges in the region. Bridges on the National Highway System (NHS) are prioritized for federal funding.

As shown on Map 6, all of the bridges in the study area are owned by either NYSDOT or OCDOT. NYSDOT owns the bridges that are associated with I-481 as well as a bridge on Route 173 near Solvay Road. OCDOT owns the remaining bridges in the study area. The only NHS bridges in the study area are those along I-481.

There are four deficient bridges shown on Map 6, and all of these are NYSDOT-owned bridges along I-481. The other bridges in the study, including the bridge on Route 173, are all non-deficient.

#### *Existing Sidewalk and Crosswalk Locations*

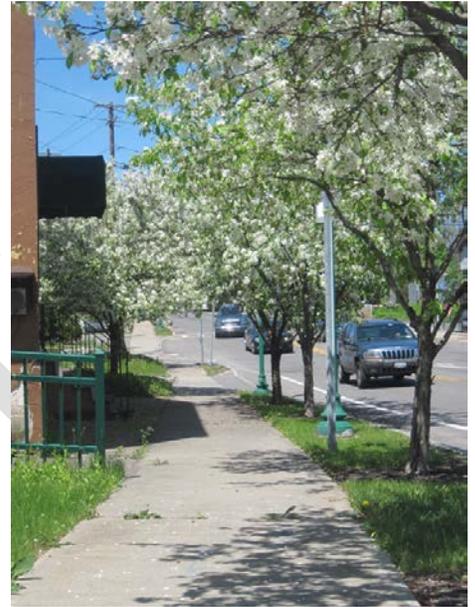
The SMTC staff examined the study area for the presence of bicycle and pedestrian facilities. The results are shown on Map 7. No bicycle facilities exist along the road segments in the study area. Sidewalks exist in the hamlet core and extend outward in each direction.



*Route 173 bridge over Butternut Creek, just west of Solvay Road.*

There are sidewalks along both sides of Route 173 from the hamlet center extending west to Jamesville Elementary School (about 1,500 feet west of South Street on the north side of Route 173, and slightly farther on the south side). Between South Street and Solvay Road there are sidewalks on both sides of Route 173. East of Solvay Road, there is sidewalk only on the north side of Route 173, extending as far as the Jamesville Fire Department (about 2,000 feet east of Solvay Road). There is also sidewalk along the west side of South Street for about 800 feet south of Route 173. A sidewalk runs along the east side of North Street, with a crosswalk near Cooke's Car Care, and then continues along the west side as far as Siawassia Street (a total distance of about 1,700 feet from Route 173).

There are crosswalks at the intersections of Route 173 with South Street, North Street, and Solvay Road although in each case there is a crosswalk on only one of the Route 173 approaches (i.e. there are crosswalks only on the eastbound approach at South Street, the westbound approach at North Street, and the eastbound approach at Solvay Road). The distance between these crosswalks is about 280 to 290 feet. There is also a crosswalk on Route 173 at the Jamesville Elementary School entrance and at the Jamesville Fire Department.



*Sidewalk along Route 173 in the hamlet center.*

*Crosswalks on Route 173 at South Street (left) and Solvay Road (right).*



## Accident Analysis

The SMTC has examined data from the NYSDOT’s Accident Location Information System (ALIS) database for locations within the study area for the most recent five-year period available (November 1, 2010 to October 31, 2015).

### *Intersection accidents*

The ALIS database was queried to identify the intersections within the study area with the greatest number of total accidents over the most recent five-year period available. 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 intersections with the greatest number of total accidents. All of these locations are in the Town of DeWitt.

**Table 1: Intersections in study area with greatest number of total accidents, November 1, 2010, to October 31, 2015**

Intersection	Total accidents	Motor vehicles only	With bicycles	With pedestrians	Other collisions*
Route 173/ North St	13	10	0	0	3
Route 173/ South St	11	10	0	0	1
Route 173/ Route 91	5	2	0	0	3
Route 173/ Gates Rd	5	2	0	0	3
Jamesville Rd/ Jamesville Toll Rd	5	2	0	0	3

\*Other collisions may include, for example, collisions with a fixed object (such as a sign post), animal, or ditch.

Source: NYSDOT ALIS database

The Route 173/North Street intersection, in the hamlet of Jamesville, had the greatest number of total accidents over the five-year period examined, with a total of 13 accidents. Also in the hamlet of Jamesville, the Route 173/South Street intersection had 11 total accidents. The majority of accidents were multiple-vehicle collisions, with no bicycle or pedestrian accidents at the five intersections listed in Table 1.

Recent turning movement counts are available at Route 173/North Street, Route 173/South Street, and Route 173/Route 91, which are the three major intersections in the hamlet of Jamesville. Accident rates were calculated for these three intersections. The accident rate calculations assumed that the PM peak hour volume entering the intersection 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 accidents <sup>1</sup>	Total PM peak hour entering vehicles <sup>2</sup>	Average Daily Entering Vehicles	Accident rate (accidents per million entering vehicles)	Statewide average accident rate <sup>3</sup>
Route 173/ North St	13	1,780	17,800	0.40	0.15
Route 173/ South St	11	1,106	11,060	0.54	0.26
Route 173/ Route 91/ Solvay Rd	9	1,305	13,050	0.38	0.26

<sup>1</sup>Source: NYSDOT ALIS database

<sup>2</sup>Source: SMTTC, 2016

<sup>3</sup>Source: NYSDOT, 2012-2014

As shown in Table 2, each of the intersections examined has an accident rate above the average rate for similar type intersections published by the NYSDOT.

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. For the three intersections identified in Table 2, the most frequent collision types are shown in Table 3.

**Table 3: Most frequent collision types for selected intersections**

Intersection	Collision type and number of events from 11/1/10 to 10/31/15
Route 173/ North St	Rear-end – 5 Other – 5 Overtaking – 2
Route 173/ South St	Rear-end – 6 Right-angle – 4
Route 173/Route 91/ Solvay Rd	Other – 4 Rear-end – 2

Rear-end collisions were the most common collision type for two of the three intersections in Table 3, and the second most common for the third. At the Route 173/South Street intersection, more than half (6 of 11) of all accidents were rear-end collisions.

There was one fatal accident associated with the three intersections in Tables 2 and 3, which occurred at Route 173/South Street. This accident involved one vehicle and was classified as a collision with a fixed object. An additional fatal intersection accident occurred outside of the hamlet center, at West Shore Manor Road and Apulia Road; this accident involved a vehicle and a motorcycle.

*Non-intersection accidents*

Accident rates were also determined for road segments within the study area. The accident rates were determined using the AADT available from the SMTC's travel demand model. The results are shown on Map 8. These rates include non-intersection accidents only.

Table 4 lists the five road segments in the study area with the highest accident rates over the period from November 1, 2010 through October 31, 2015, excluding segments less than 0.1 mile in length and segments with five or fewer total accidents during the five-year period examined.

**Table 4: Road segments in study area with highest accident rates, November 1, 2010 through October 31, 2015**

Road Segment	Town	Total non-intersection accidents <sup>1</sup>	Segment length (mi.)	Average Annual Daily Traffic (vehicles per day) <sup>2</sup>	Accident rate (accidents per million vehicle miles traveled)	Statewide average accident rate <sup>3</sup>
Apulia Rd from West Shore Manor Rd to Jamesville Beach entrance	LaFayette	6	1.07	423	7.3	2.3
Route 91 from Jamesville Grove Rd to Taylor Rd	Pompey	7	0.21	4,431	4.2	2.33
Route 173 from Solvay Rd to 0.11 miles east of Solvay Rd	DeWitt	7	0.11	8,864	4.0	2.3
Route 173 from Sewickley Dr to Clark Reservation entrance	DeWitt	7	0.17	7,320	3.0	2.3
North St from Siawassia St to Route 173	DeWitt	14	0.32	10,010	2.4	2.3

<sup>1</sup>Source: NYSDOT ALIS database

<sup>2</sup>Source: SMTC travel demand model

<sup>3</sup>Source: NYSDOT

All of the segments identified in Table 4 have calculated accidents rates that exceed the published statewide average for similar facilities. There was one fatal accident (on Route 173 between Sewickley Drive and Clark Reservation entrance), due to unsafe speed; there were no other non-intersection fatal accidents during this five-year period on the segments listed in Table 4.

Within the hamlet center area, there was one accident on Route 173 between South Street and North Street and two accidents on Route 173 between North Street and Solvay Road over this five-year period.

There were two non-intersection collisions with bicyclists and no collisions with pedestrians. The two bicycle accidents resulted in injuries; one occurred on South Street south of Jamesville hamlet, and one occurred on Apulia Road in the Town of LaFayette.

## **Summary**

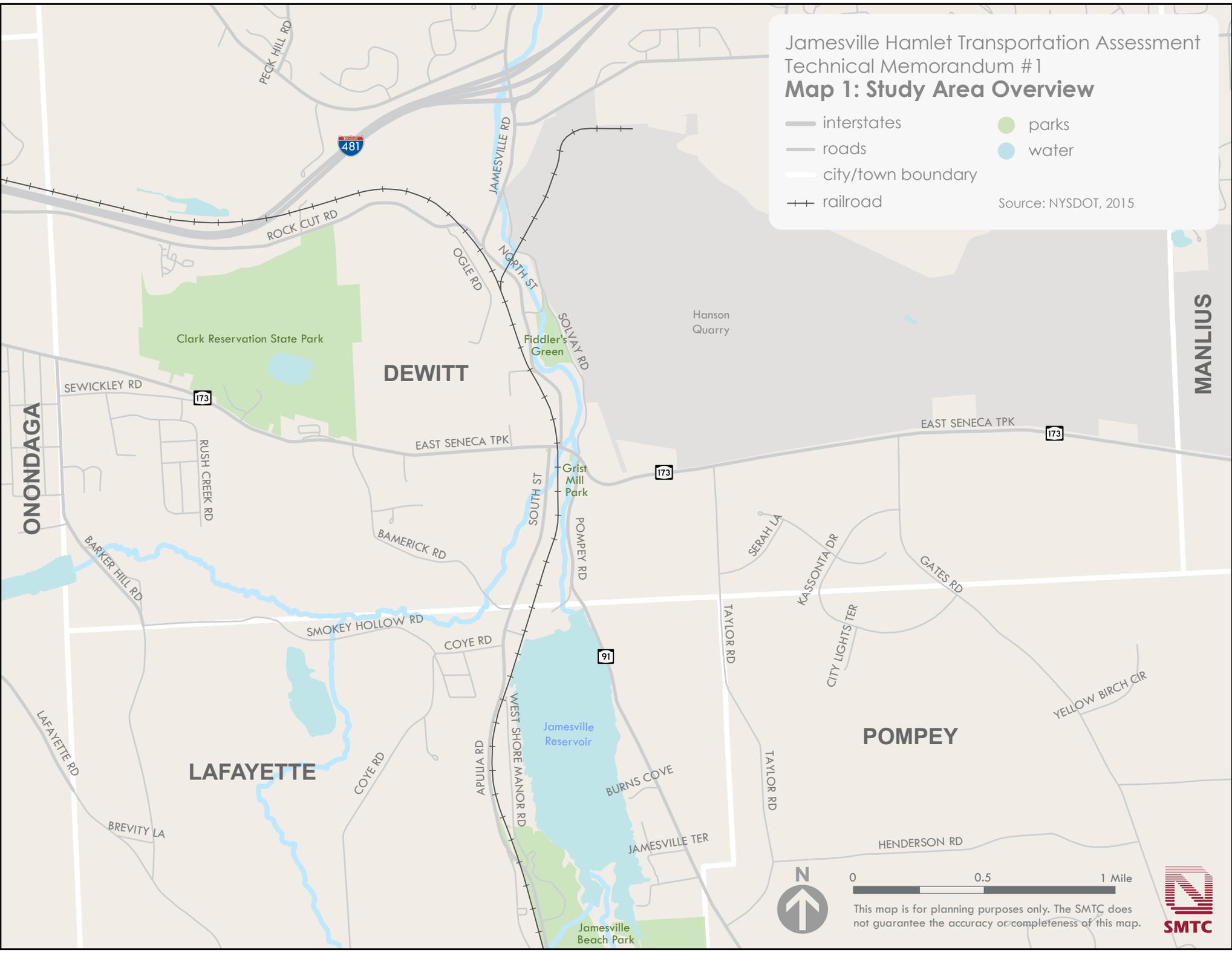
After reviewing the available data on existing transportation facilities in the Jamesville Hamlet area as well as the available accident data for intersections and road segments in the study area for the most recent five-year period available (November 1, 2010 through October 31, 2015), the SMTC offers the following conclusions:

- Route 173 is a significant east-west connection between the Town of Onondaga and the Town of Manlius, and is owned by the NYSDOT.
- The other major roads in the hamlet center (South Street and North Street) are owned by Onondaga County.
- The highest traffic volume in the study area is on Route 173 between North Street and Solvay Road. This portion of Route 173 carries approximately 13,205 vehicles per day. The pavement on this segment is in poor condition.
- All of the bridges in the study area are owned by either NYSDOT or OCDOT. There are four deficient bridges, and all of these are NYSDOT-owned bridges along I-481.
- There are sidewalks on both sides of Route 173 within the hamlet center, between South Street and Solvay Road. Beyond this area, there are sidewalks on at least one side of the road for over a quarter-mile east and west on Route 173 and north on North Street. There is a sidewalk on South Street that extends about 800 feet south of Route 173.
- There are crosswalks on Route 173, spaced about 280-290 feet apart, in the hamlet center area at South Street, North Street, and Solvay Road. There are also crosswalks at the Jamesville Elementary School and Jamesville Fire Department.
- Accident rates at the South Street, North Street, and Route 91/Solvay Road intersections on Route 173 exceed published statewide average rates for similar-type intersections. Rear-end, right-angle, and collisions classified as “other” were the most common collision types at these locations. There were no bicycle or pedestrian accidents at these intersections during the time period examined.
- The segment of Apulia Road from West Shore Manor Road to the Jamesville Beach entrance had the highest accident rate within the study area.
- There were no non-intersection pedestrian accidents, and two non-intersection bicycle accidents.
- Within the hamlet center area, there was one accident on Route 173 between South Street and North Street and two accidents on Route 173 between North Street and Solvay Road.

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 Technical Memorandum #1  
**Map 1: Study Area Overview**

 interstates	 parks
 roads	 water
 city/town boundary	
 railroad	

Source: NYSDOT, 2015



0 0.5 1 Mile

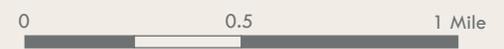
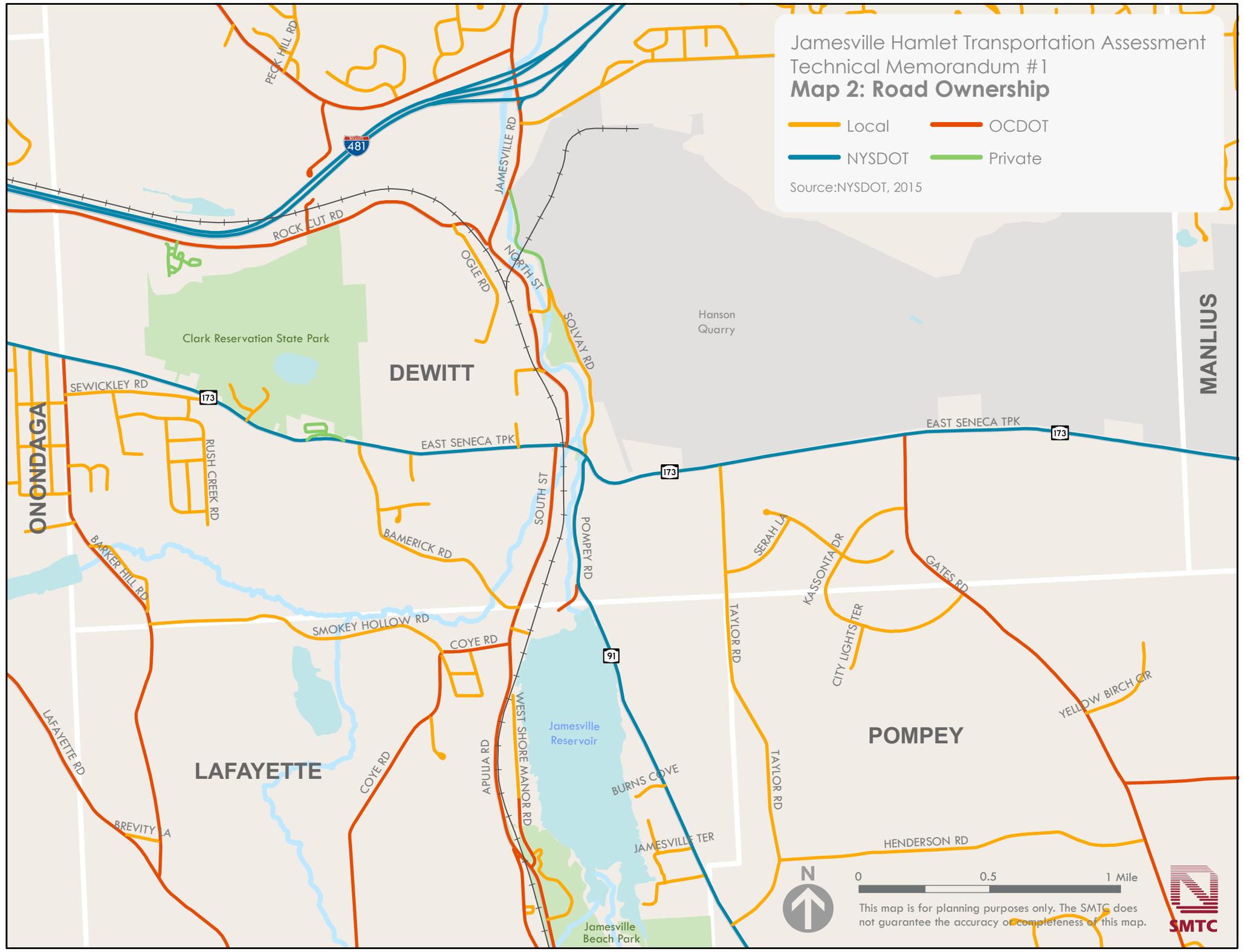
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**Map 2: Road Ownership**

- Local
- OCDOT
- NYSDOT
- Private

Source: NYSDOT, 2015



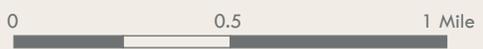
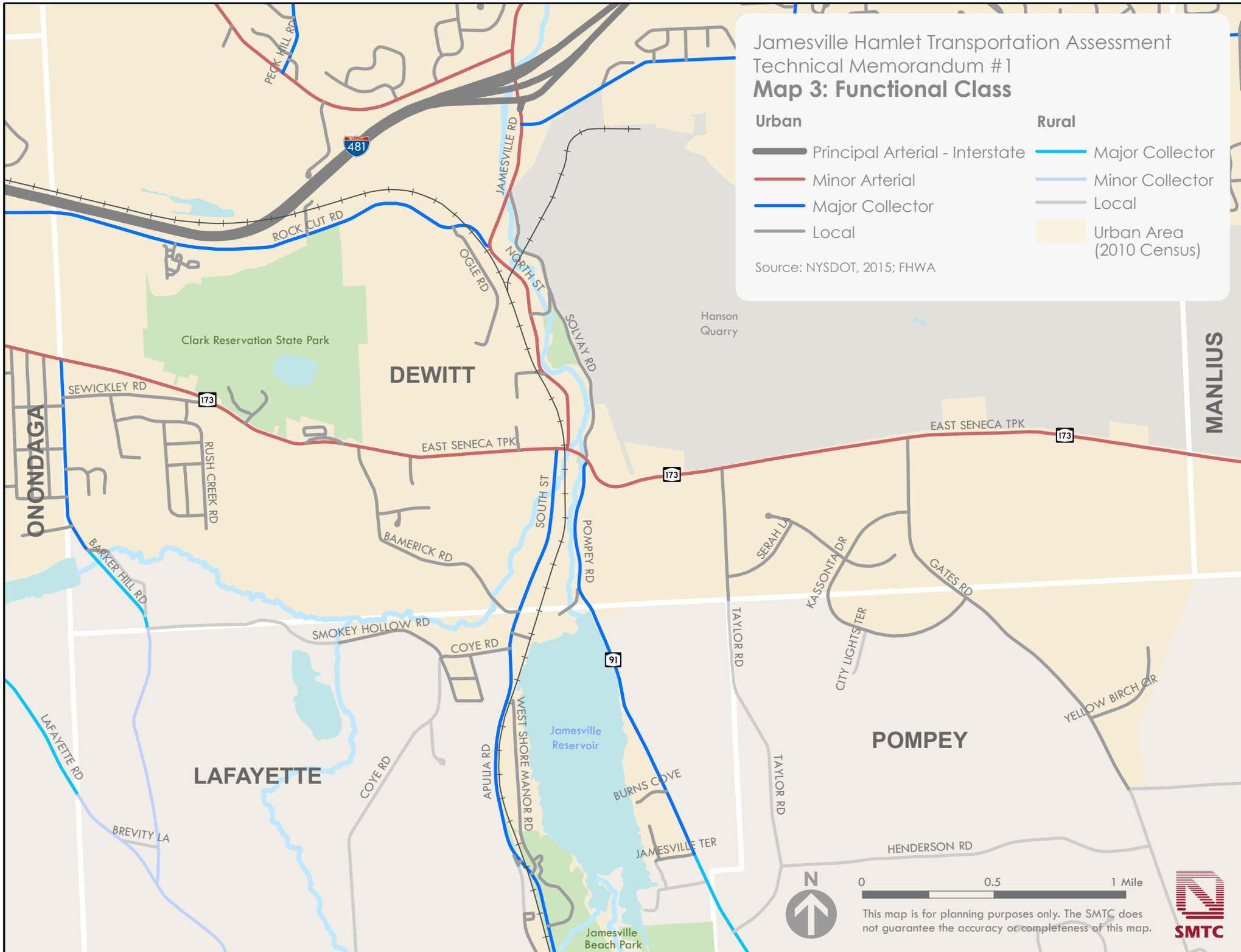
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**Map 3: Functional Class**

- | Urban                           | Rural                    |
|---------------------------------|--------------------------|
| Principal Arterial - Interstate | Major Collector          |
| Minor Arterial                  | Minor Collector          |
| Major Collector                 | Local                    |
| Local                           | Urban Area (2010 Census) |

Source: NYSDOT, 2015; FHWA



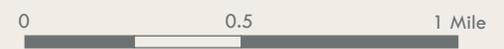
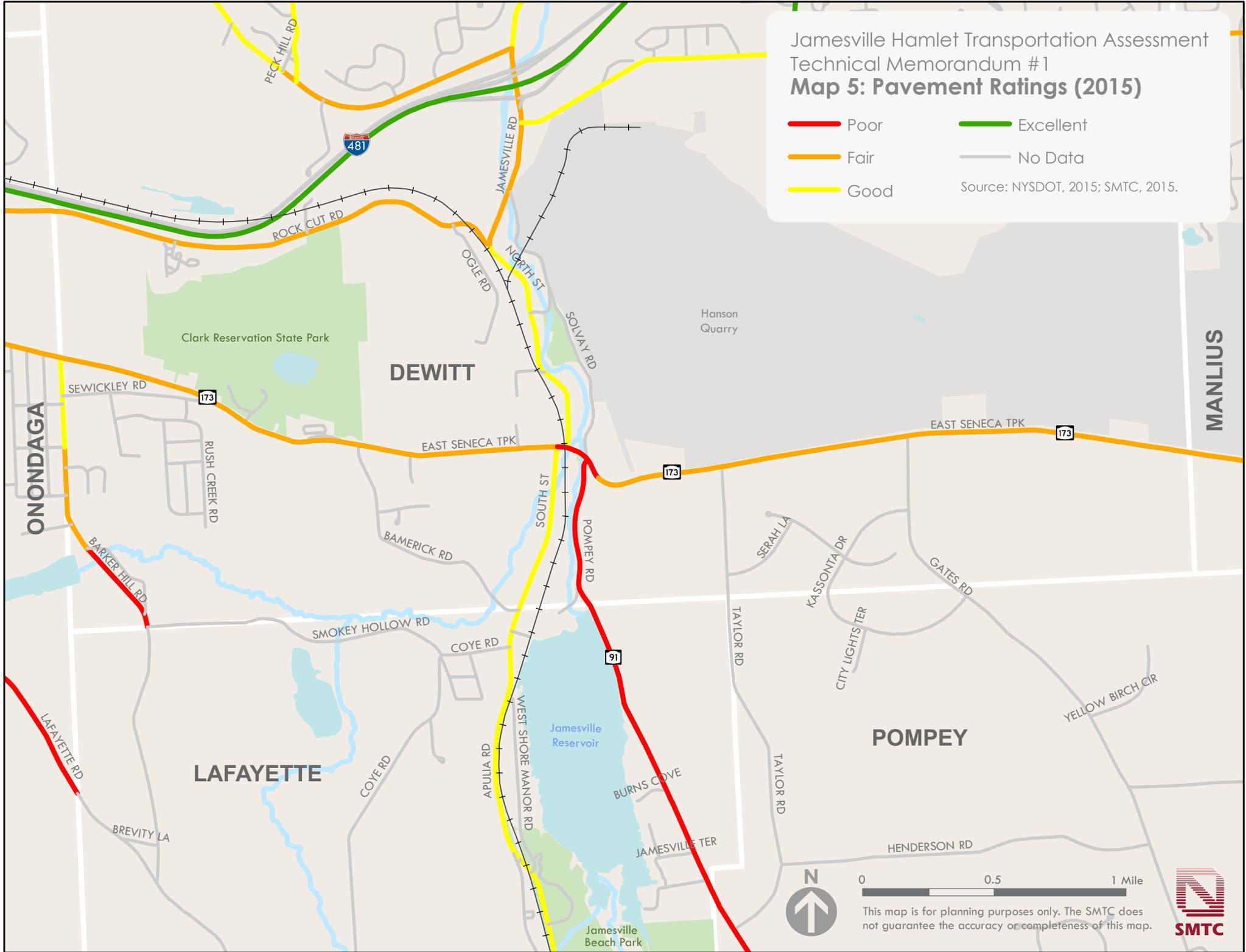
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**Map 5: Pavement Ratings (2015)**

- |  |   |
|--|---|
|  Poor |  Excellent |
|  Fair |  No Data   |
|  Good | Source: NYSDOT, 2015; SMTC, 2015.   |

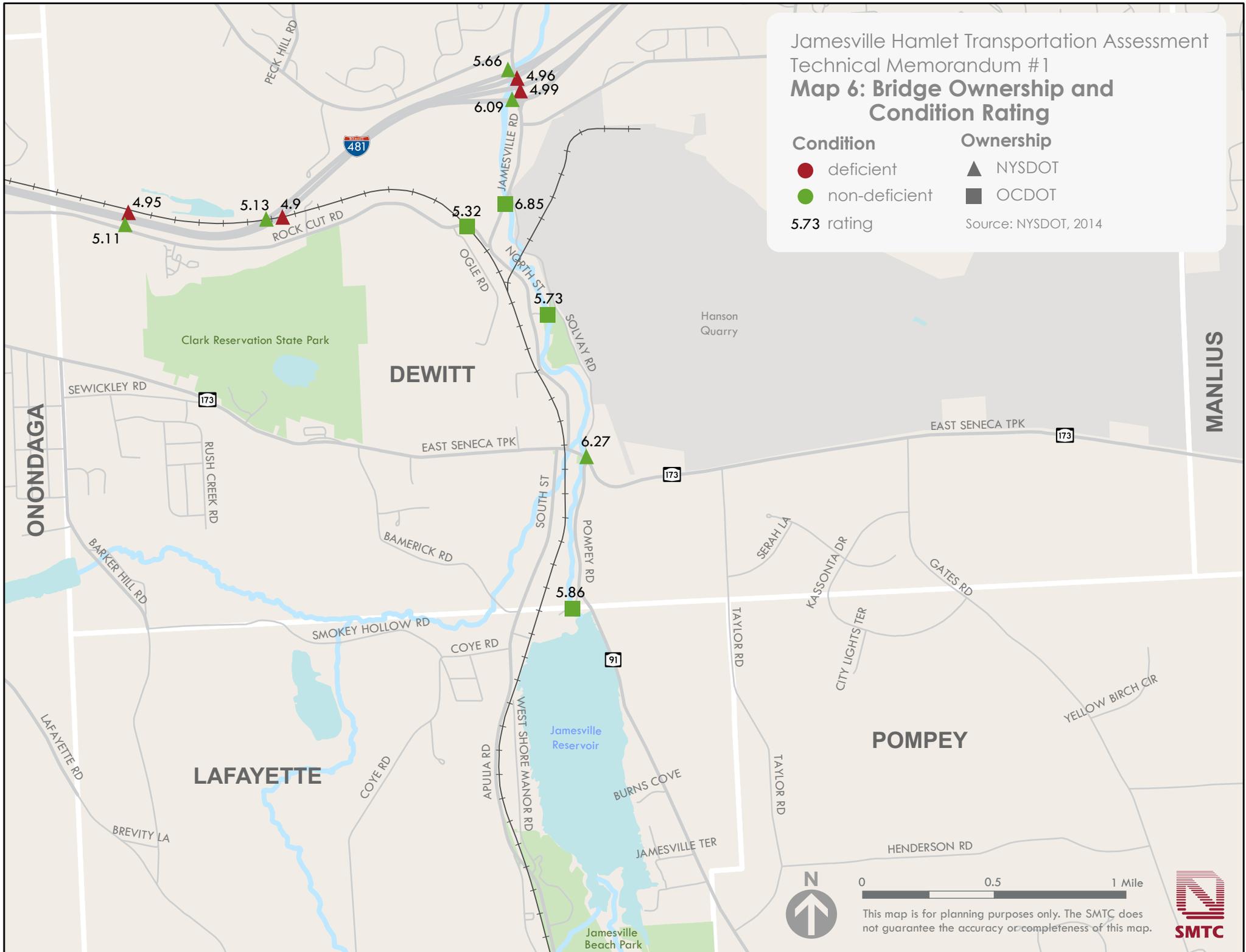


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**Map 6: Bridge Ownership and  
 Condition Rating**

- |                  |                      |
|------------------|----------------------|
| <b>Condition</b> | <b>Ownership</b>     |
| ● deficient      | ▲ NYSDOT             |
| ● non-deficient  | ■ OCDOT              |
| 5.73 rating      | Source: NYSDOT, 2014 |



0 0.5 1 Mile

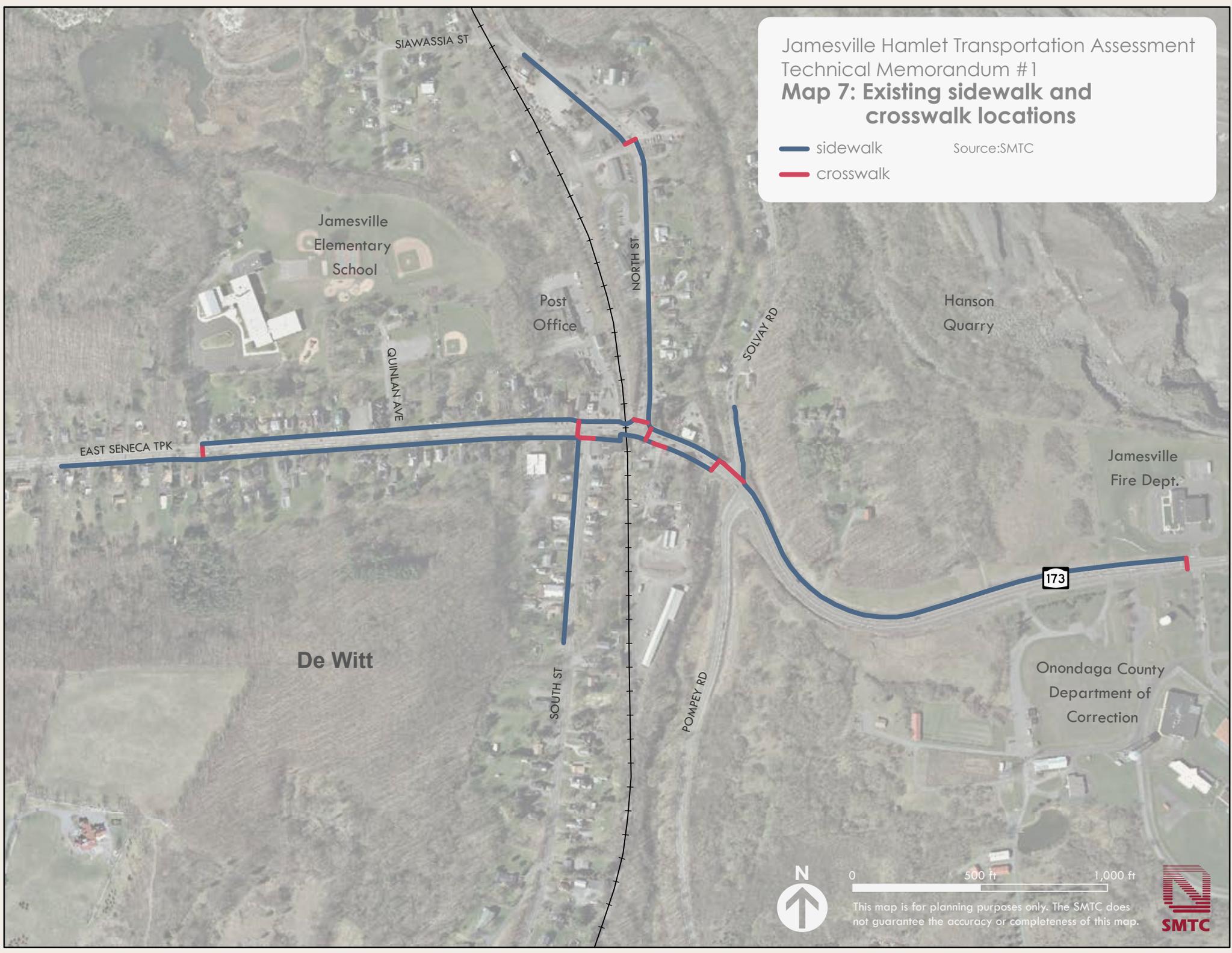
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**Map 7: Existing sidewalk and  
crosswalk locations**

— sidewalk  
— crosswalk

Source: SMTC



De Witt

Hanson  
Quarry

Jamesville  
Fire Dept.

173

Onondaga County  
Department of  
Correction

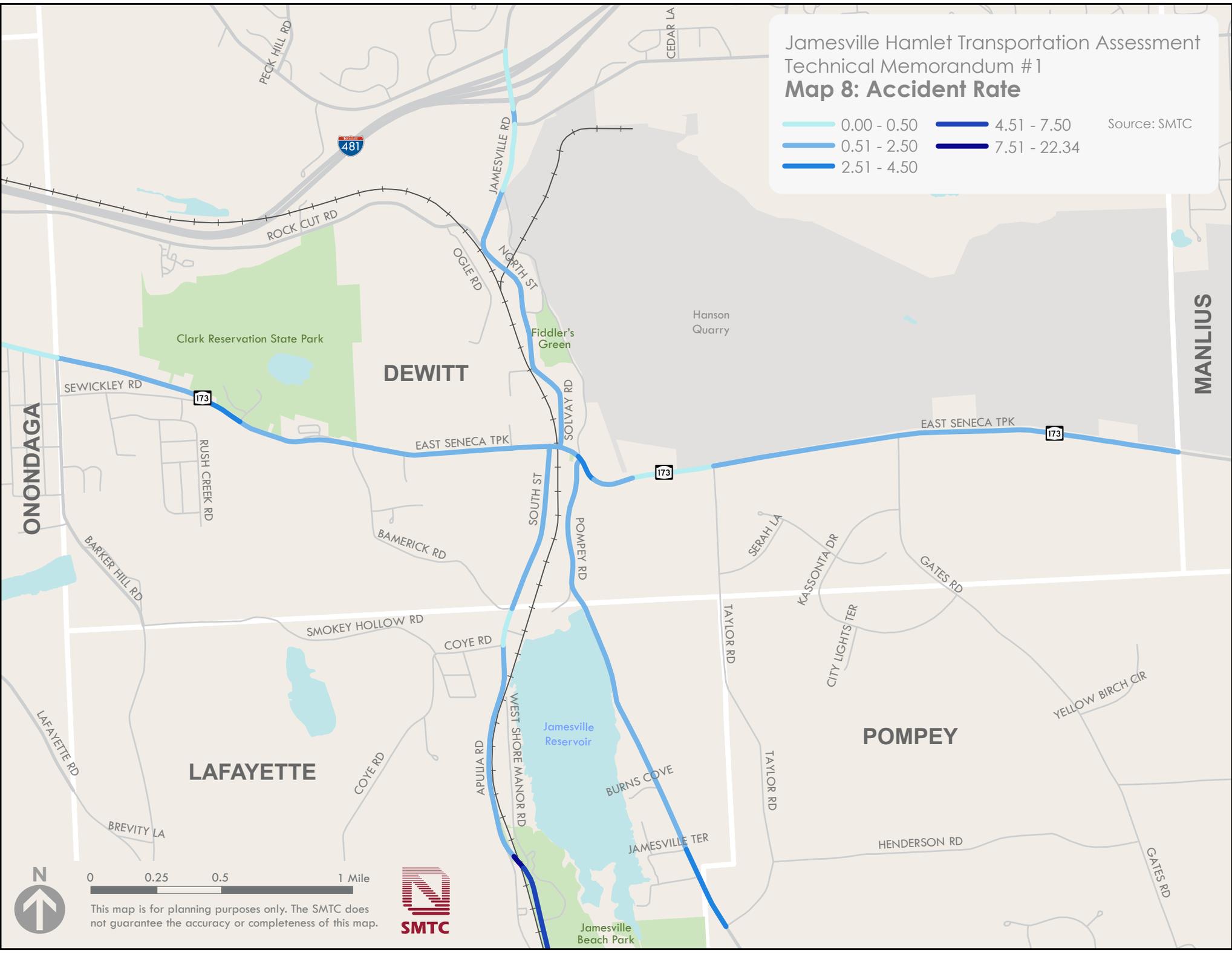
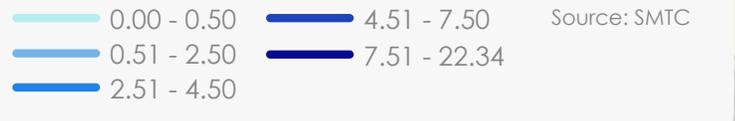


0 500 ft 1,000 ft

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**Map 8: Accident Rate**





  
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