



Capital District Transportation Committee (CDTC)/ Capital District Regional Planning Commission (CDRPC) Technical Assistance Program

TECHNICAL MEMORANDUM

Town of Guilderland

Development Growth Trends Analysis: Traffic

November 2021

Background

The Town of Guilderland is currently collecting data to prepare for an update of their Comprehensive Plan (2001). The purpose of this Technical Assistance effort is to compile and analyze traffic volume data since 2000 along key corridors in the Town of Guilderland, to inform the Town's Comprehensive Plan update process.

Daily Traffic Volume Trends

Traffic volume data was collected from the New York State Department of Transportation (NYSDOT) Highway Data Services Bureau. Daily traffic volumes are expressed using the Average Annual Daily Traffic (AADT). AADT is the total volume of vehicle traffic on a roadway for a year, divided by 365 days. There are various methods for collecting data to estimate AADT, including automated and actuated counters, cameras, or using an observer to record traffic.

Daily traffic volume data was collected for sixteen (16) roadway segments identified by Town of Guilderland staff and is displayed in Table 1 below. For each segment, AADT was collected for all available years since 2000. A compound annual growth rate was calculated for each segmentⁱ. Segments with growth rates less than zero (negative growth) are shaded in pink, while segments with growth rates greater than zero (positive growth) are shaded in green. A detailed analysis of daily traffic volume trends for each segment can be found on pages T-1 to T-16, attached to this Tech Memo.

Table 1: Daily Traffic Volume Trendsⁱⁱ

Page Ref.	Roadway	Segment		Years	Annual Growth Rate
		From	To		
T-1	US 20/Western Ave	Schenectady Co. Line	NY 397/Dunnsville Rd	2002-2019	-0.1%
T-2	US 20/Western Ave	NY 397/Dunnsville Rd	NY 158	2000-2019	1.5%

Page Ref.	Roadway	Segment		Years	Annual Growth Rate
		From	To		
T-3	US 20/Western Ave	NY 158	NY 146/Carman Rd	2001-2019	1.9%
T-4	US 20/NY 146/Western Ave	NY 146/Carman Rd	NY 146	2001-2019	-0.7%
T-5	US 20/Western Ave	NY 146	NY 155/New Karner Rd	2005-2019	-2.5%
T-6	US 20/Western Ave	NY 155	Crossgates Mall Ent.	2001-2019	-0.7%
T-7	US 20/Western Ave	Crossgates Mall Ent.	NY 910F/Northway Ent.	2000-2019	1.0%
T-8	US 20/Western Ave	NY 910F/Northway Ent.	CR 156/Fuller Rd	2002-2019	-0.8%
T-9	NY 146	Main St (Altamont)	NY 158	2005-2019	-0.2%
T-10	NY 146	NY 158	CR 201/Depot Rd	2000-2019	-0.1%
T-11	NY 146/Carman Rd	US 20/Western Ave	Schenectady Co. Line	2002-2019	0.2%
T-12	NY 155/State Farm Rd	NY 85A	US 20/Western Ave	2000-2019	1.2%
T-13	CR 203/Johnston Rd	Town Line	Veeder Rd	2001-2019	-1.5%
T-14	CR 156/Fuller Rd	US 20/Western Ave	Washington Ave	2010-2019	1.5%
T-15	Old State Rd (East)	NY 146/Carman Rd	Lydius St	2009-2019	-1.9%
T-16	Old State Rd (East)	Lydius St	Kings Rd	2009-2019	-1.3%

Daily Traffic Volume Trends: Observations

From Table 1, the following observations about daily traffic volume trends can be made:

- The AADT data suggests, since 2000, there has been little/no growth in traffic volumes, and in some cases negative growth, for the roadway segments included in this analysis
- The AADT data suggests, since 2000, the fastest-growing roadway segment included in this analysis is US 20/Western Ave, between NY 158 and NY 146, at 1.8%/year
- Ten (10) of the sixteen(16) roadway segments included in this analysis experienced negative growth, while six (6) of the sixteen (16) roadway segments included in this analysis experienced positive growth

- The slow/no growth of traffic volumes for the roadway segments included in this analysis is consistent with the observed slow growth of Vehicle Miles Traveled (VMT) in the CDTC region since 2000

Peak Hour Traffic Volume Trends

In a similar manner as described above, peak hour traffic volume data was collected from the NYSDOT Highway Data Services Bureau. Peak hour traffic represents the one hour of the day where the traffic volume on the roadway segment is highest. For this analysis, the highest hour of traffic was analyzed regardless of time of day, also known as a high-hour analysis. In most cases, the peak hour occurs sometime during the evening hours, from approximately 4:00-6:00 PM.

Available peak hour traffic volume data was collected for the same sixteen (16) roadway segments identified by Town of Guilderland staff above for the daily traffic volume analysis and is displayed in Table 2 belowⁱⁱⁱ. For each segment, peak hour traffic volume data was collected for all available years since 2000. A compound annual growth rate was calculated for each segment^{iv}. Segments with growth rates less than zero (negative growth) are shaded in pink, while segments with growth rates greater than zero (positive growth) are shaded in green. A detailed analysis of peak hour traffic volume trends for each segment can be found on pages T-1 to T-16, attached to this Tech Memo.

Table 2: Peak Hour Traffic Volume Trendsⁱⁱ

Page Ref.	Roadway	Segment		Years	Annual Growth Rate
		From	To		
T-1	US 20/Western Ave	Schenectady Co. Line	NY 397/Dunnsville Rd	2002-2019	1.9%
T-2	US 20/Western Ave	NY 397/Dunnsville Rd	NY 158	2000-2016	1.6%
T-3	US 20/Western Ave	NY 158	NY 146/Carman Rd	2006-2018	2.4%
T-4	US 20/NY 146/Western Ave	NY 146/Carman Rd	NY 146	2001-2017	-0.8%
T-5	US 20/Western Ave	NY 146	NY 155/New Karner Rd	2005-2017	-1.7%
T-6	US 20/Western Ave	NY 155	Crossgates Mall Ent.	2001-2017	-3.4%
T-7	US 20/Western Ave	Crossgates Mall Ent.	NY 910F/Northway Ent.	2000-2017	0.8%
T-8	US 20/Western Ave	NY 910F/Northway Ent.	CR 156/Fuller Rd	2002-2017	-0.4%
T-9	NY 146	Main St (Altamont)	NY 158	2005-2019	1.1%
T-10	NY 146	NY 158	CR 201/Depot Rd	2000-2019	-0.1%

Table 2: Peak Hour Traffic Volume Trendsⁱⁱ

Page Ref.	Roadway	Segment		Years	Annual Growth Rate
		From	To		
T-12	NY 155/State Farm Rd	NY 85A	US 20/Western Ave	2000-2018	1.2%
T-13	CR 203/Johnston Rd	Town Line	Veeder Rd	2001-2019	-1.5%
T-14	CR 156/Fuller Rd	US 20/Western Ave	Washington Ave	2010-2017	2.2%
T-15	Old State Rd (East)	NY 146/Carman Rd	Lydius St	2009-2019	-0.3%
T-16	Old State Rd (East)	Lydius St	Kings Rd	2009-2019	-1.0%

Peak Hour Traffic Volume Trends: Observations

From Table 2, the following observations about peak hour traffic volume trends can be made:

- The peak hour traffic volume data suggests, since 2000, there has been little/no growth in traffic volumes, and in some cases negative growth, for the roadway segments included in this analysis
- The peak hour traffic volume data suggests, since 2000, the fastest-growing roadway segment included in this analysis is US 20/Western Ave, between NY 158 and NY 146, at 2.4%/year
- Eight (8) of the roadway segments included in this analysis experienced negative growth, while seven (7) of the roadway segments included in this analysis experienced positive growth
- The slow/no growth of peak hour traffic volumes for the roadway segments included in this analysis is consistent with observed slow growth of Vehicle Miles Traveled (VMT) in the CDTC region since 2000

Notes

The data included in this analysis were collected before the onset of the COVID-19 pandemic. Traffic volumes collected by NYSDOT in 2020 and 2021 were excluded from this analysis but will be provided to the Town where available. This analysis does not include the traffic volume impacts and potential traffic pattern shifts that could have possibly occurred during and/or after the COVID-19 pandemic. CDTC is currently assessing traffic volume and pattern shifts from the COVID-19 pandemic, however, the analysis was not available at the time of this publication.

ⁱ Compound Annual Growth Rate = (Last AADT Value/First AADT Value) ^ (1/Number of Years) – 1

ⁱⁱ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

ⁱⁱⁱ NY 146/Carman Rd (US 20/Western Ave to Schenectady Co. Line) was not included in the peak hour traffic volume analysis; insufficient data was available (page ref. T-11)

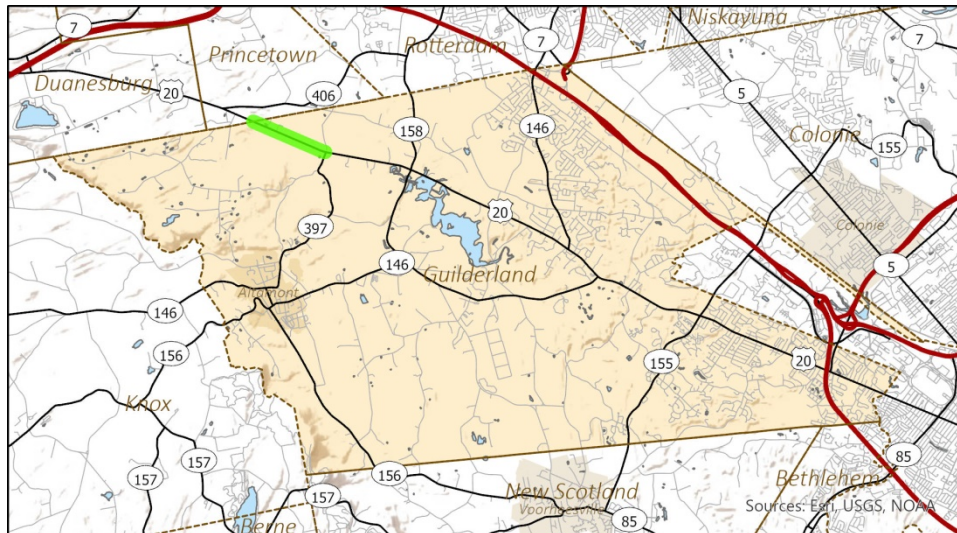
^{iv} Compound Annual Growth Rate = (Last Peak Hour Value/First Peak Hour Value) ^ (1/Number of Years) – 1

Traffic Volume Trends Summary

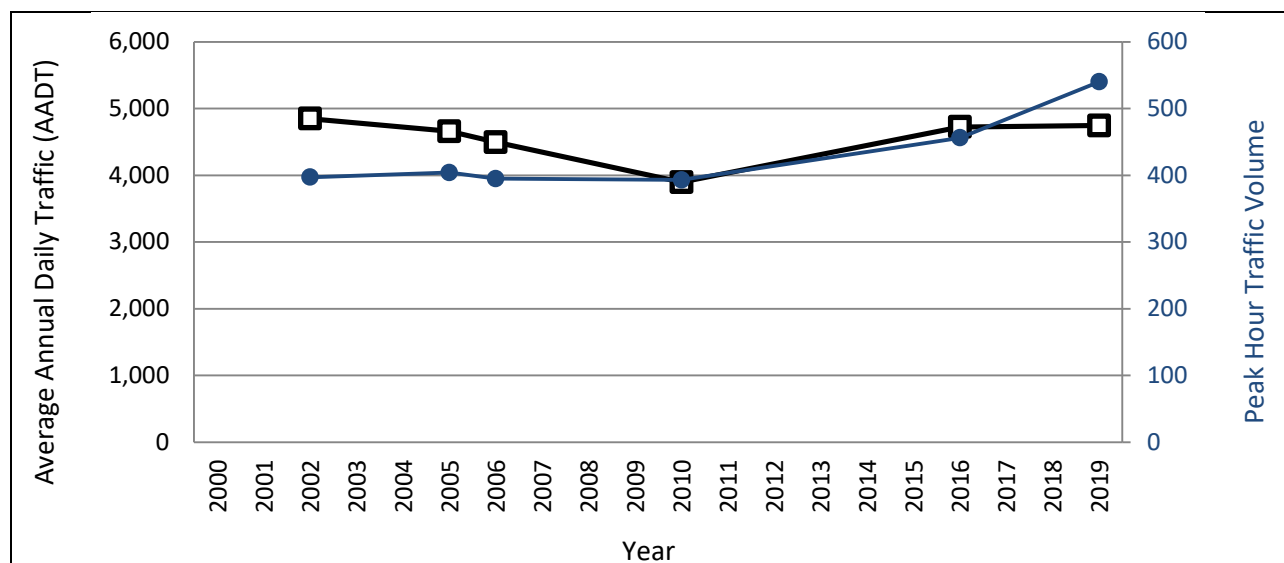
Roadway:
US 20/Western Ave

Limits:
Schenectady Co. Line to NY 397/Dunnsville Rd

NYSDOT Station ID:
110227



Traffic Counts: 2000-2019 ¹						
Year	2002	2005	2006	2010	2016	2019
AADT ²	4,848	4,659	4,495	3,896	4,723	4,744
Peak Hour	397	404	395	393	456	450



AADT Compound Annual Growth Rate (2002-2019): **-0.1%**

Peak Hour Compound Annual Growth Rate (2002-2019): **1.9%**

¹ Data Source: NYSDOT Highway Data Services Bureau accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

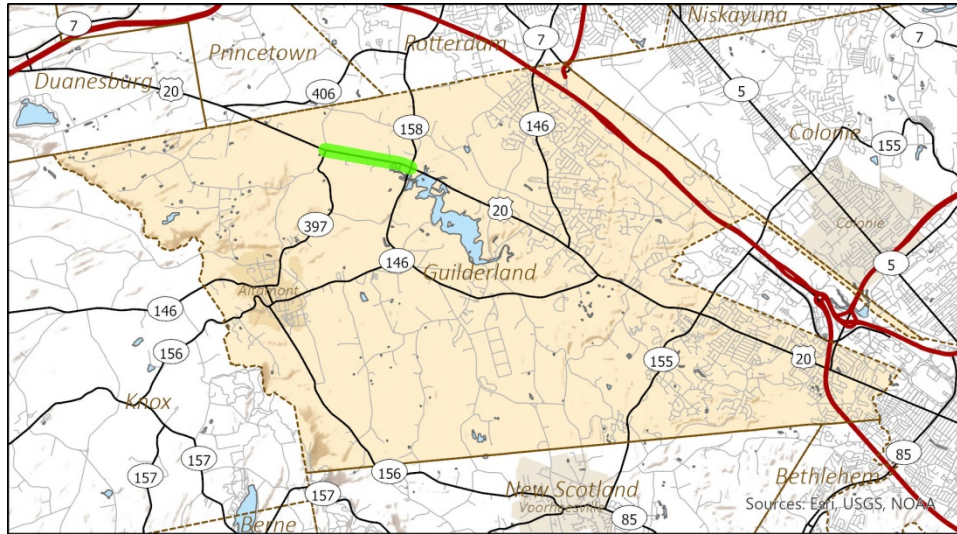
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

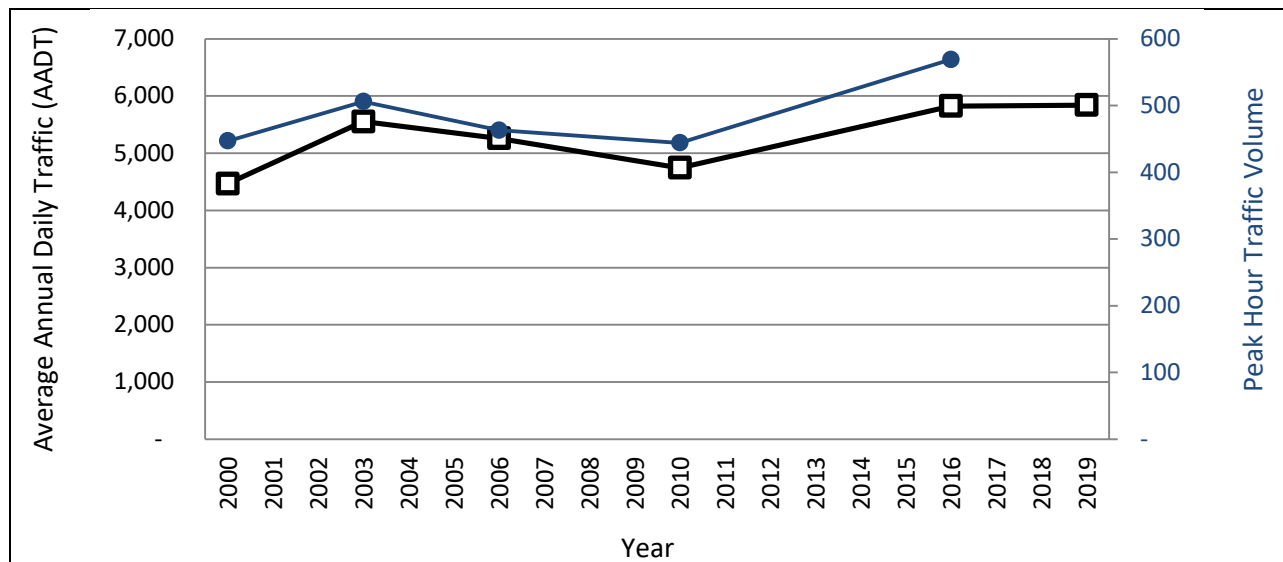
Roadway:
US 20/Western Ave

Limits:
NY 397/Dunnsville Rd to NY 158

NYSDOT Station ID:
110228



Traffic Counts: 2000-2019 ¹						
Year	2000	2003	2006	2010	2016	2019*
AADT ²	4,467	5,553	5,258	4,745	5,825	5,851
Peak Hour	447	506	463	444	569	n/a



AADT Compound Annual Growth Rate (2000-2019): **1.5%**

Peak Hour Compound Annual Growth Rate (2000-2016): **1.6%**

¹ Data Source: NYSDOT Highway Data Services Bureau accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

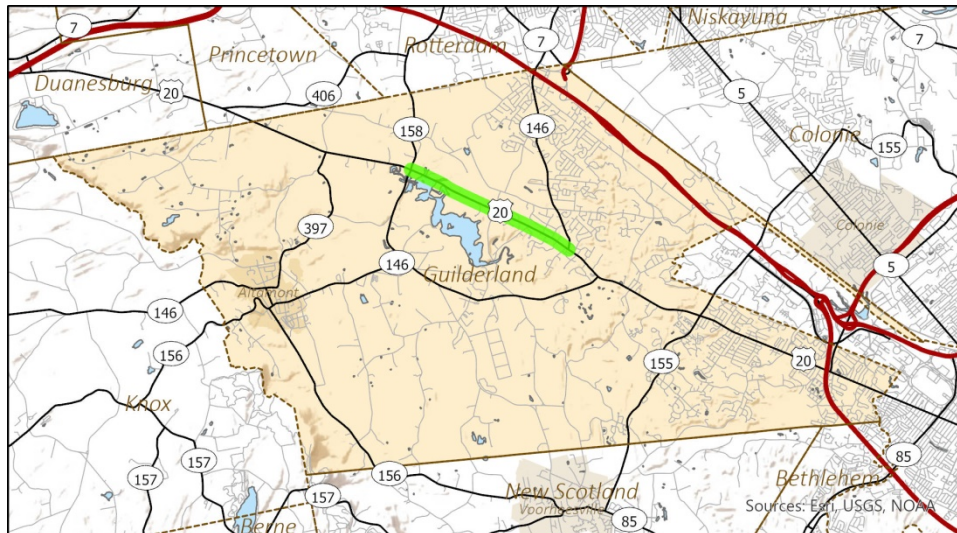
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

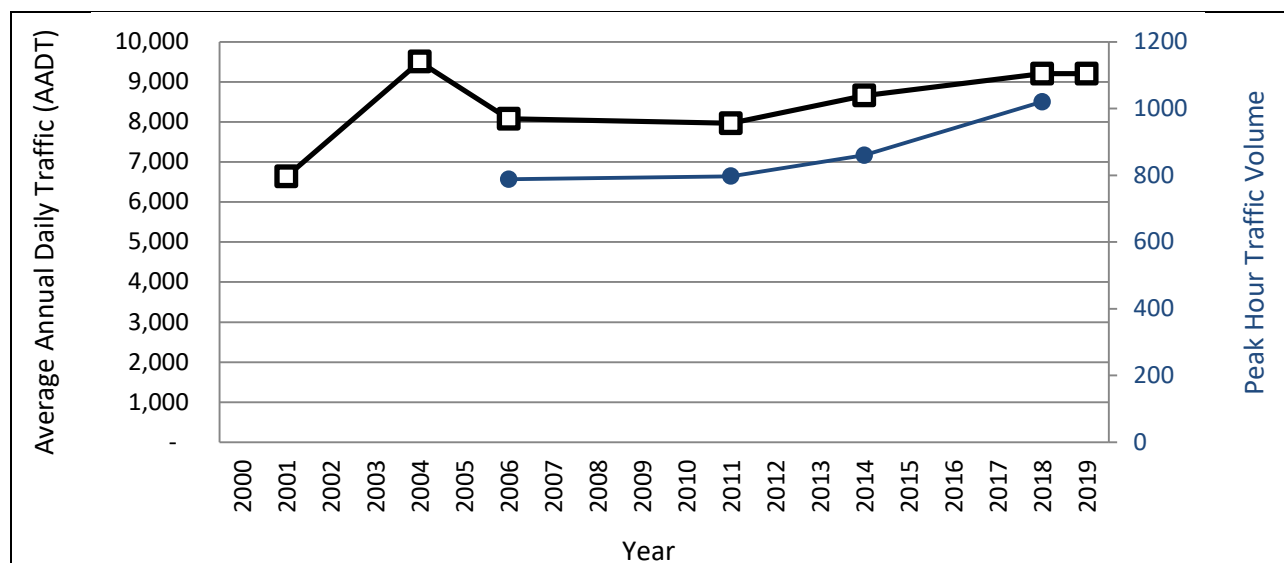
Roadway:
US 20/Western Ave

Limits:
NY 158 to NY 146/Carman Rd

NYSDOT Station ID:
110028



Traffic Counts: 2000-2019 ¹							
Year	2001	2004	2006	2011	2014	2018	2019*
AADT ²	6,634	9,504	8,075	7,966	8,655	9,204	9,204
Peak Hour	n/a	n/a	788	797	860	1,020	n/a



AADT Compound Annual Growth Rate (2001-2019): **1.9%**

Peak Hour Compound Annual Growth Rate (2006-2018): **2.4%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

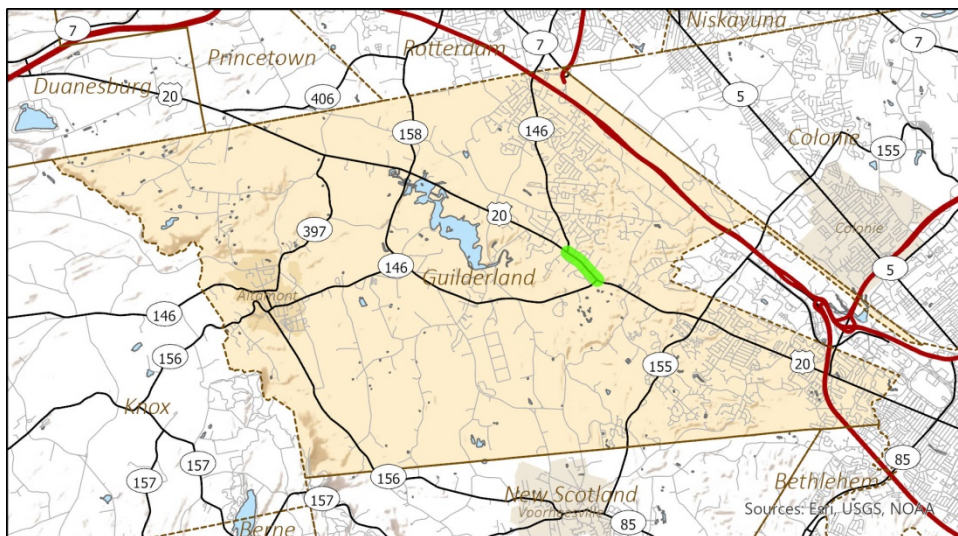
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

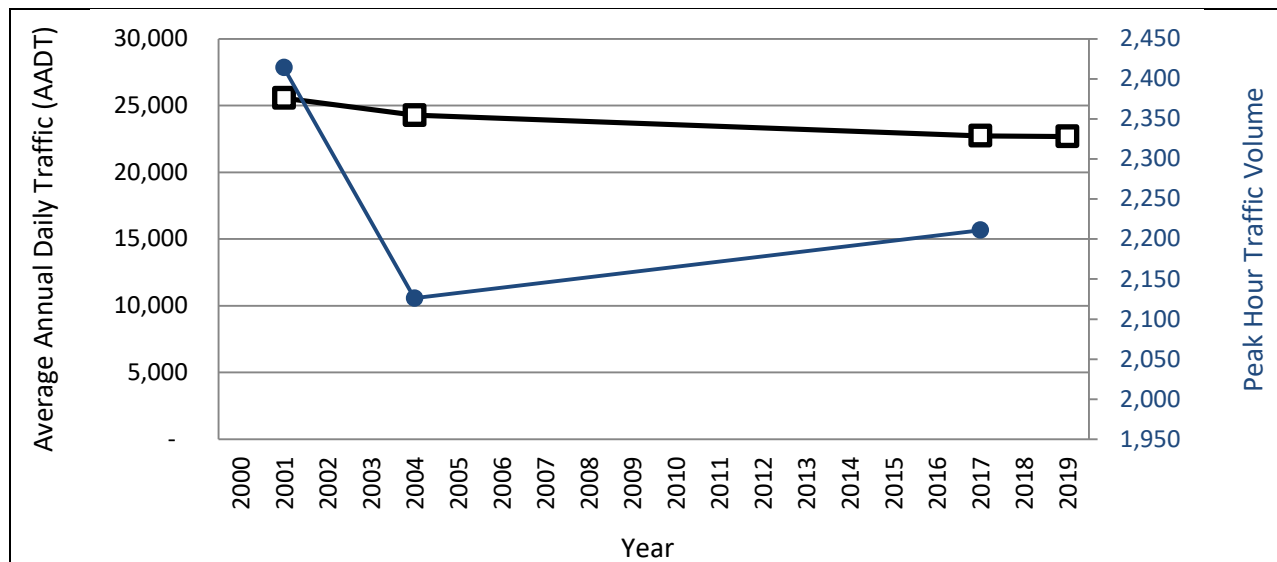
Roadway:
US 20/NY 146/Western Ave

Limits:
NY 146/Carman Rd to NY 146

NYSDOT Station ID:
110214



	Traffic Counts: 2000-2019 ¹			
Year	2001	2004	2017	2019*
AADT ²	25,556	24,274	22,727	22,679
Peak Hour	2,414	2,126	2,211	n/a



AADT Compound Annual Growth Rate (2001-2019): **-0.7%**

Peak Hour Compound Annual Growth Rate (2001-2017): **-0.8%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

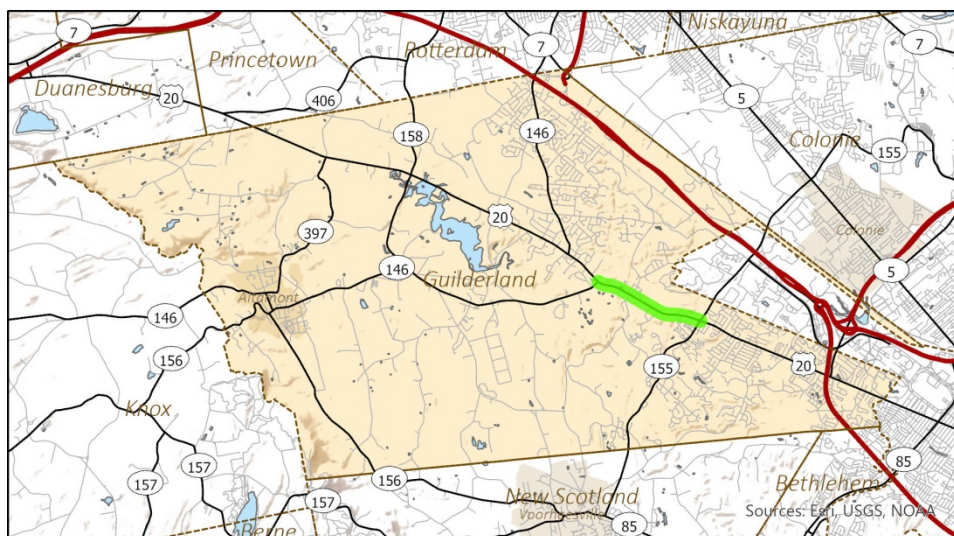
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

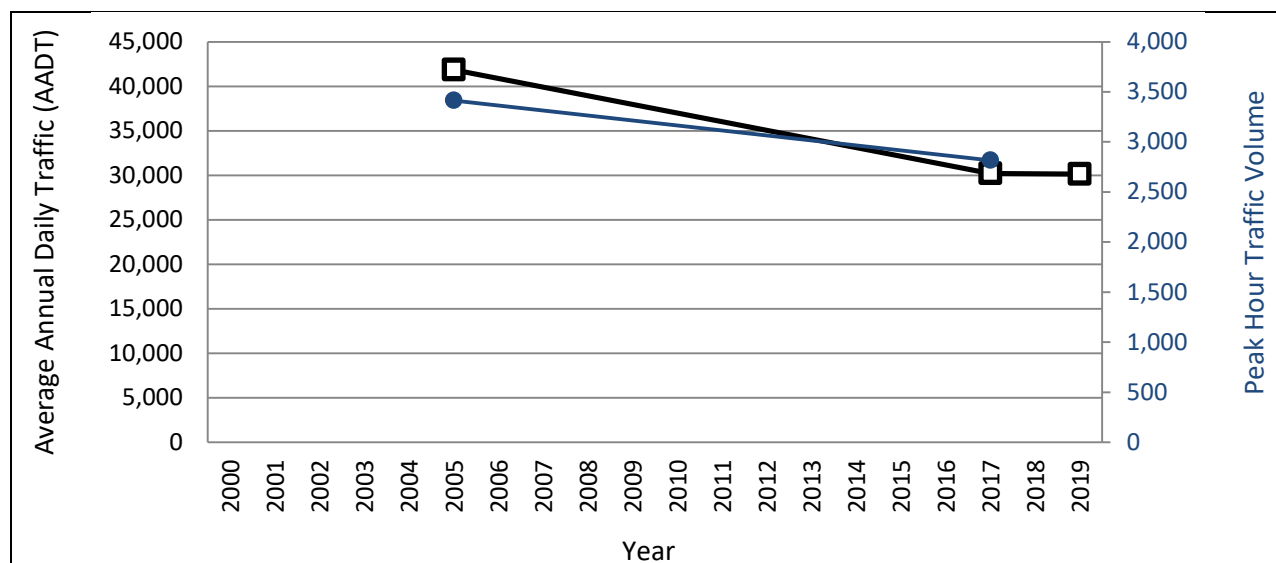
Roadway:
US 20/Western Ave

Limits:
NY 146 to NY 155/New Karner Rd

NYSDOT Station ID:
110213



	Traffic Counts: 2000-2019 ¹		
<i>Year</i>	<i>2005</i>	<i>2017</i>	<i>2019*</i>
AADT ²	41,868	30,209	30,145
Peak Hour	3,415	2,816	n/a



AADT Compound Annual Growth Rate (2005-2019): **-2.5%**

Peak Hour Compound Annual Growth Rate (2005-2017): **-1.7%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

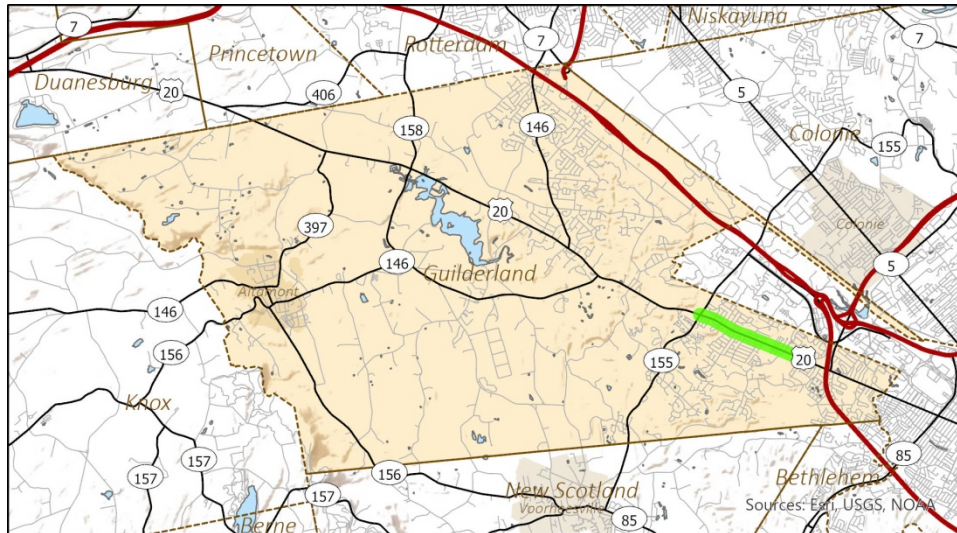
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

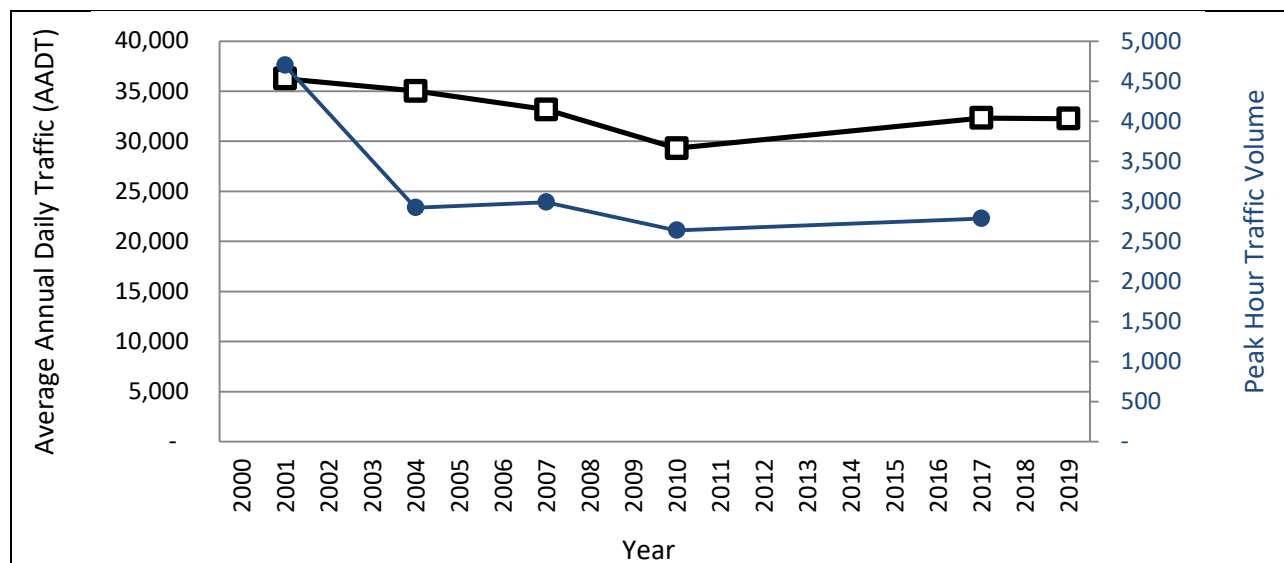
Roadway:
US 20/Western Ave

Limits:
NY 155 to Crossgates Mall Entrance

NYS DOT Station ID:
110172



Traffic Counts: 2000-2019 ¹						
Year	2001	2004	2007	2010	2017	2019*
AADT ²	36,253	35,026	33,166	29,306	32,325	32,257
Peak Hour	4,699	2,921	2,990	2,638	2,786	n/a



AADT Compound Annual Growth Rate (2001-2019): **-0.7%**

Peak Hour Compound Annual Growth Rate (2001-2017): **-3.4%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

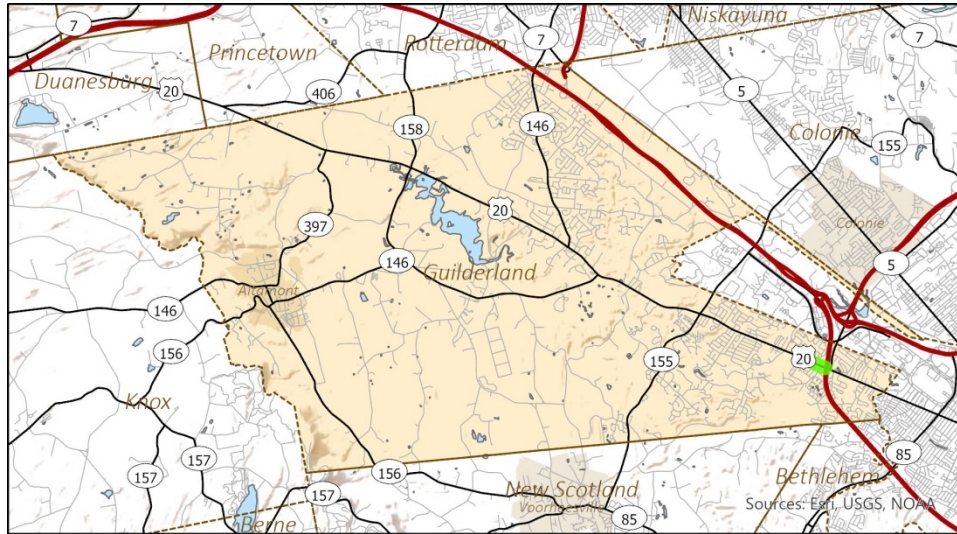
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

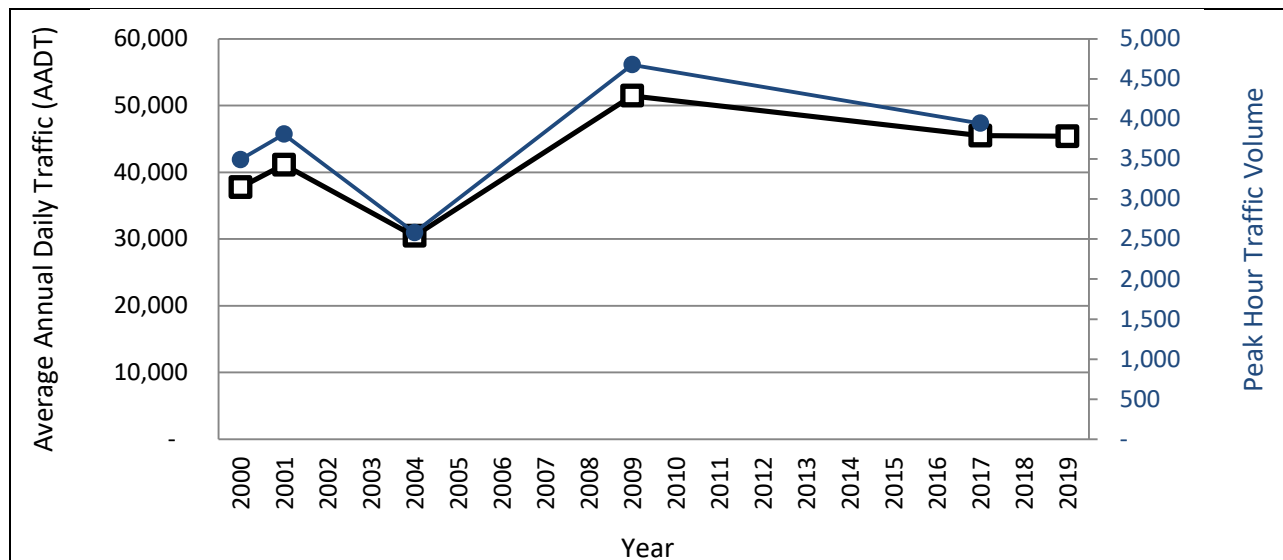
Roadway:
US 20/Western Ave Crossgates Mall Entrance to NY 910F/Northway Entrance

Limits:

NYSDOT Station ID:
110212



Traffic Counts: 2000-2019 ¹						
Year	2000	2001	2004	2009	2017	2019*
AADT ²	37,734	41,126	30,455	51,463	45,481	45,385
Peak Hour	3,491	3,808	2,580	4,676	3,944	n/a



AADT Compound Annual Growth Rate (2000-2019): **1.0%**

Peak Hour Compound Annual Growth Rate (2000-2017): **0.8%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

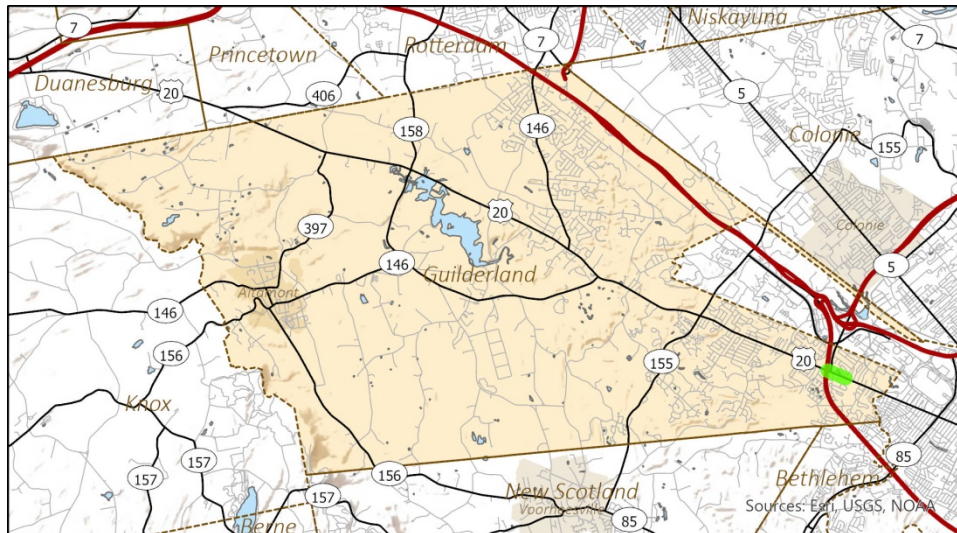
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

Roadway:
US 20/Western Ave

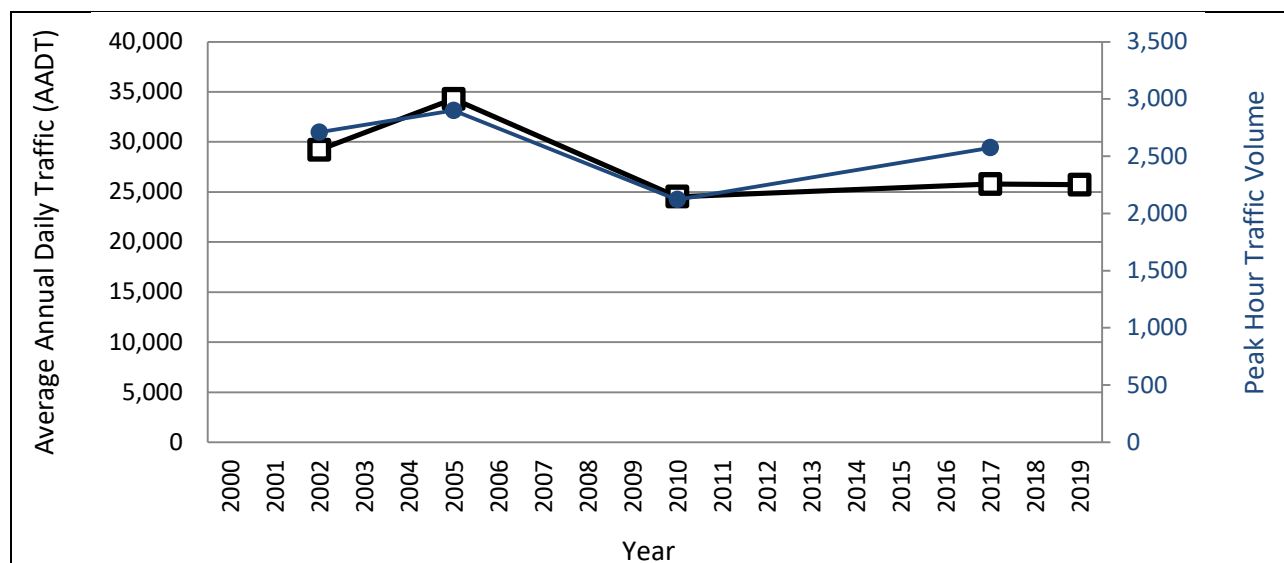
Limits:
NY 910F/Northway Entrance to CR 156/Fuller Rd

NYS DOT Station ID:
110211



Traffic Counts: 2000-2019¹

Year	2002	2004	2010	2017	2019*
AADT ²	29,210	34,294	24,522	25,778	25,724
Peak Hour	2,709	2,900	2,120	2,574	n/a



AADT Compound Annual Growth Rate (2002-2019): **-0.8%**

Peak Hour Compound Annual Growth Rate (2002-2017): **-0.4%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

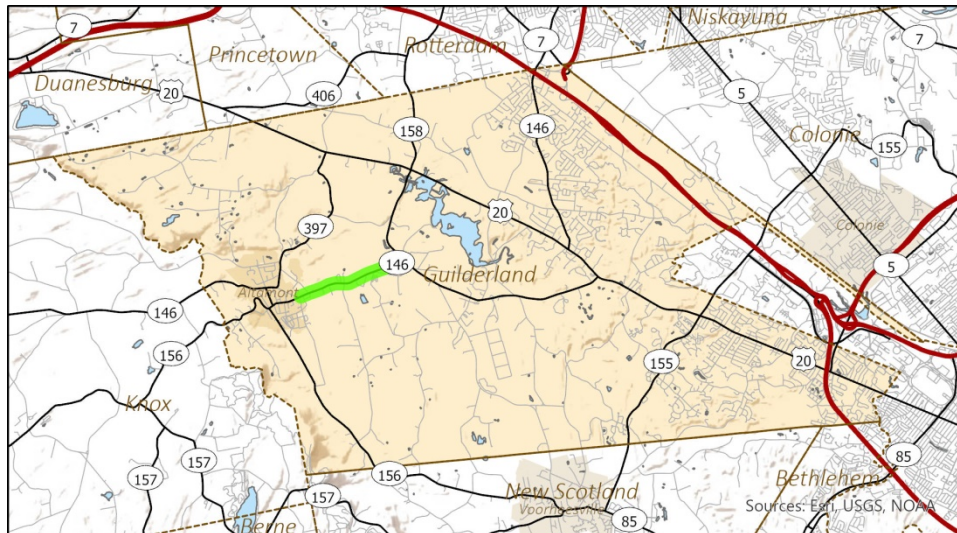
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

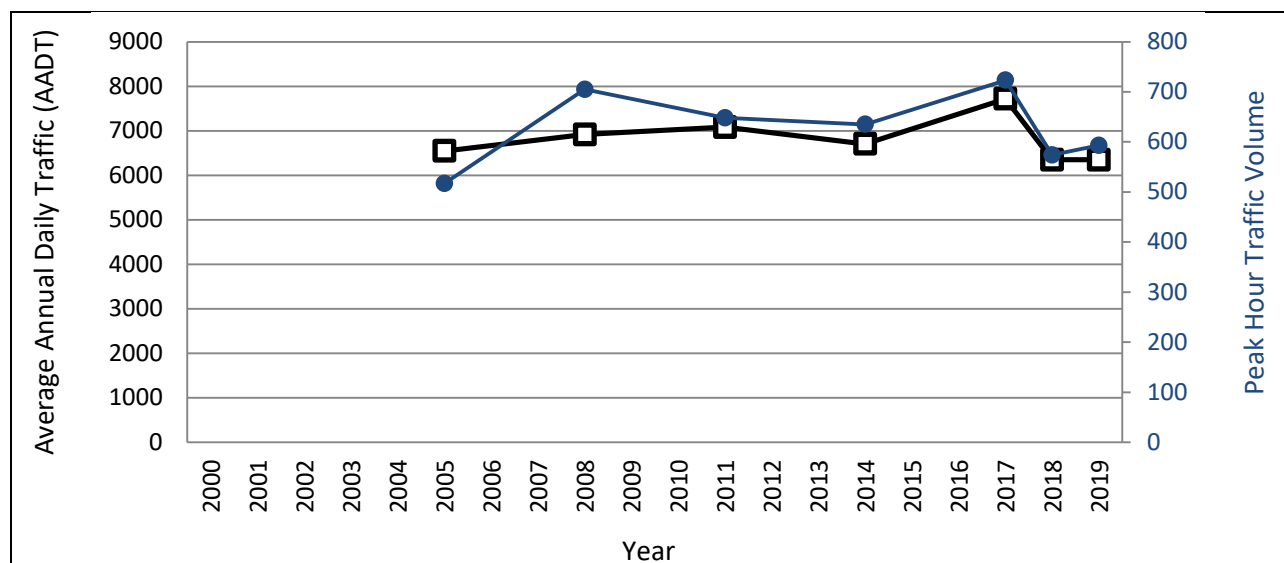
Roadway:
NY 146

Limits:
Main St (Altamont) to NY 158

NYSDOT Station ID:
110231



	Traffic Counts: 2000-2019 ¹						
<i>Year</i>	<i>2005</i>	<i>2008</i>	<i>2011</i>	<i>2014</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
AADT ²	6,546	6,916	7,083	6,703	7,718	6,347	6,347
Peak Hour	517	705	648	635	723	574	593



AADT Compound Annual Growth Rate (2005-2019): **-0.2%**

Peak Hour Compound Annual Growth Rate (2005-2019): **1.1%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

Roadway:

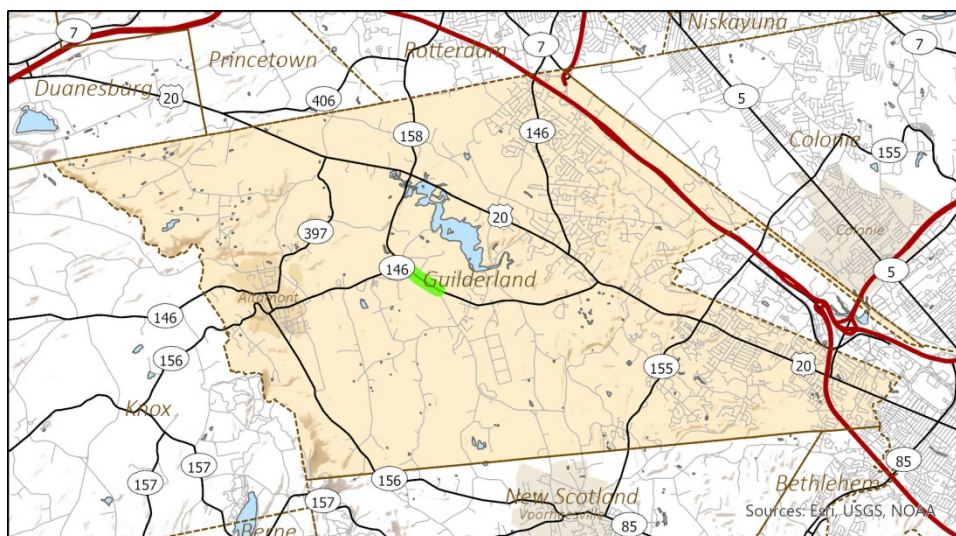
NY 146

Limits:

NY 158 to CR 201/Depot Rd

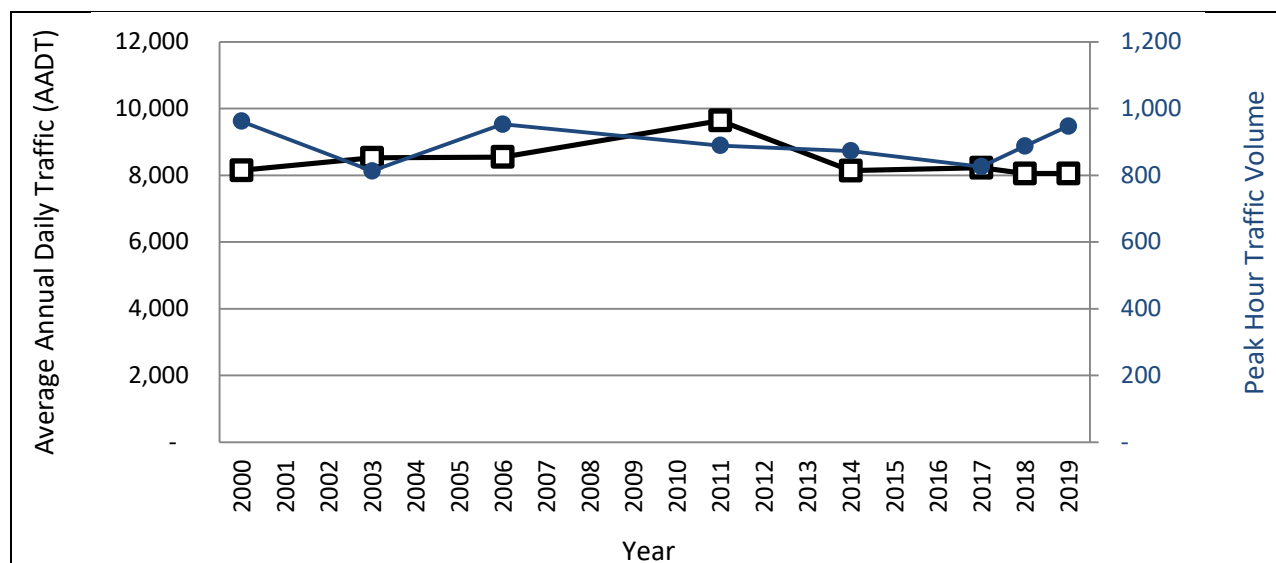
NYSDOT Station ID:

110232



Traffic Counts: 2000-2019¹

Year	2000	2003	2006	2011	2014	2017	2018	2019
AADT ²	8,147	8,520	8,545	9,640	8,140	8,225	8,054	8,054
Peak Hour	962	813	953	889	873	826	887	947



AADT Compound Annual Growth Rate (2000-2019): **-0.1%**

Peak Hour Compound Annual Growth Rate (2000-2016): **-0.1%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via

<https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

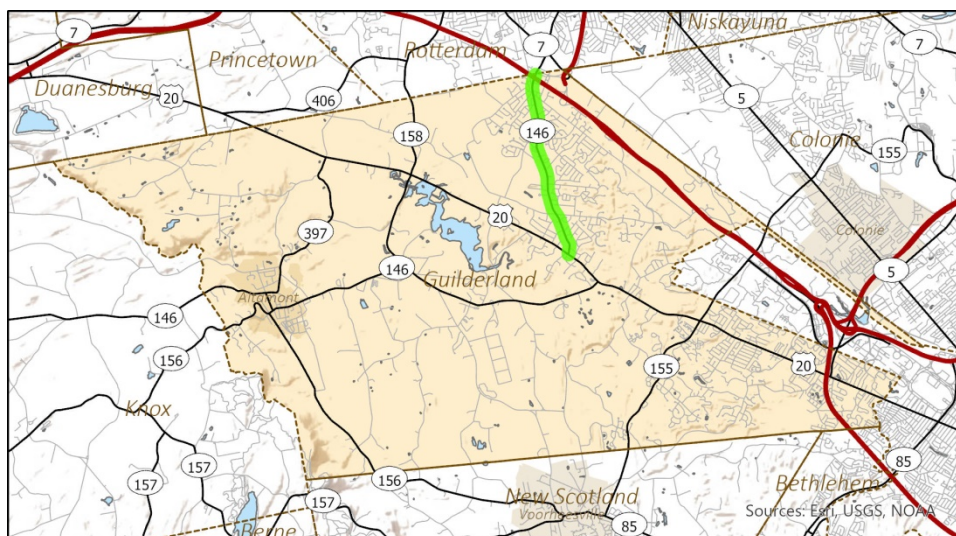
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

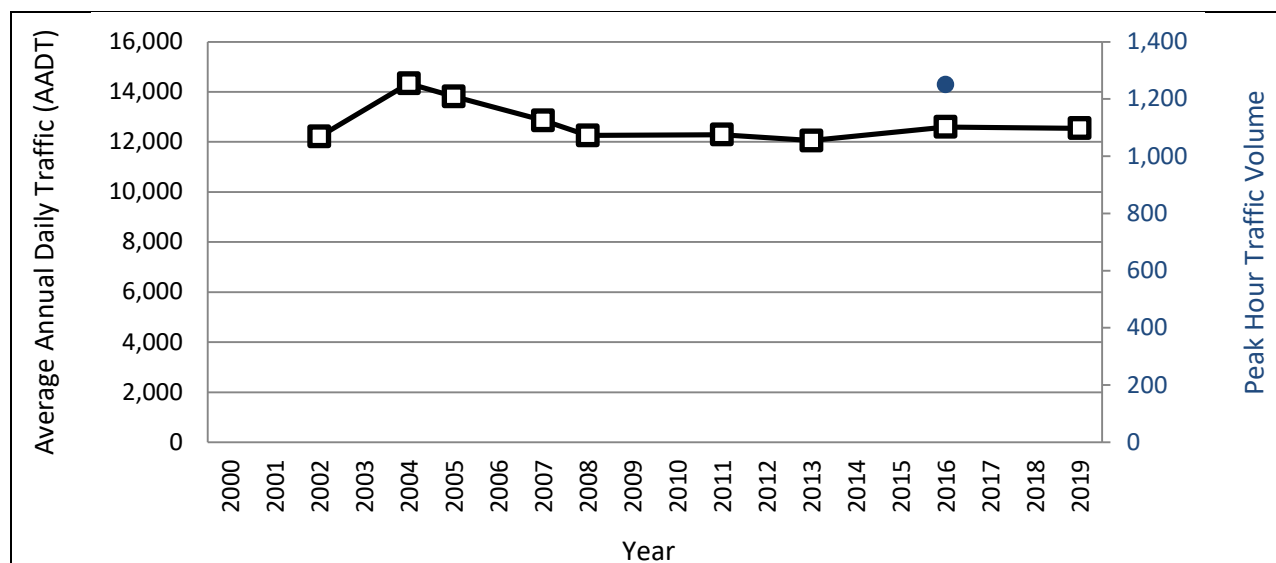
Roadway:
NY 146/Carman Rd

Limits:
US 20/Western Ave to Schenectady Co. Line

NYS DOT Station ID:
110117



Traffic Counts: 2000-2019 ¹									
Year	2002	2004	2005	2007	2008	2011	2013	2016	2019*
AADT ²	12,213	14,337	13,817	12,861	12,260	12,288	12,053	12,595	12,542
Peak Hour	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,250	n/a



AADT Compound Annual Growth Rate (2002-2019): **0.2%**

Peak Hour Compound Annual Growth Rate: **n/a**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

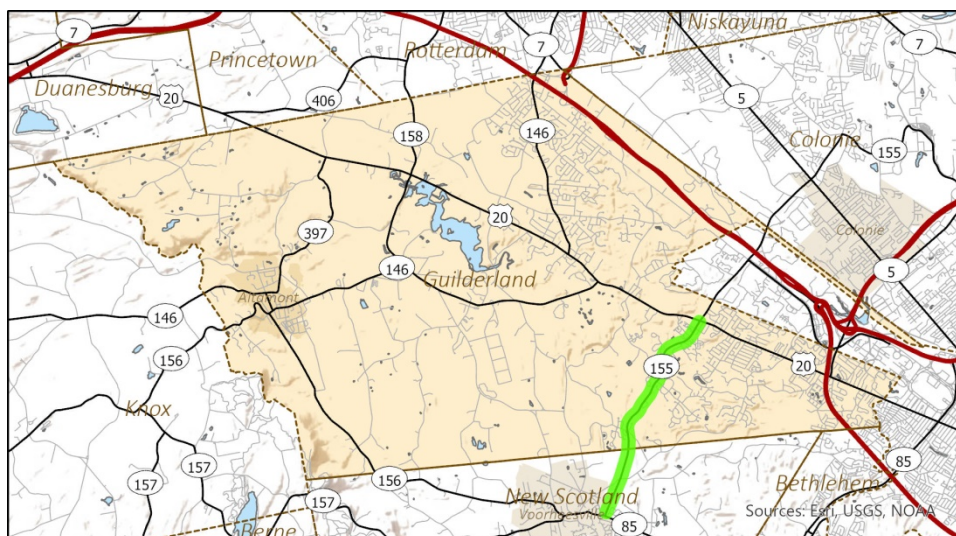
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

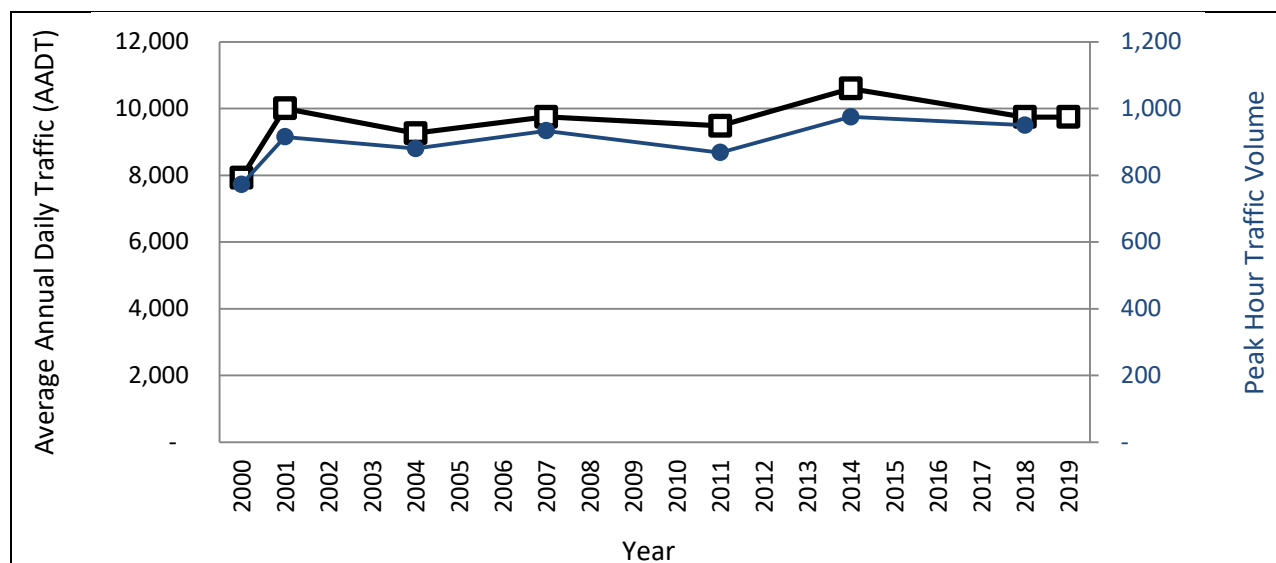
Roadway:
NY 155/State Farm Rd

Limits:
NY 85A to US 20/Western Ave

NYS DOT Station ID:
110484



	Traffic Counts: 2000-2019 ¹							
Year AADT ²	2000	2001	2004	2007	2011	2014	2018	2019*
Peak Hour	7924	10,005	9,259	9,751	9,482	10,600	9,743	9,743
	772	915	880	933	868	975	950	n/a



AADT Compound Annual Growth Rate (2000-2019): **1.2%**

Peak Hour Compound Annual Growth Rate (2000-2018): **1.2%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

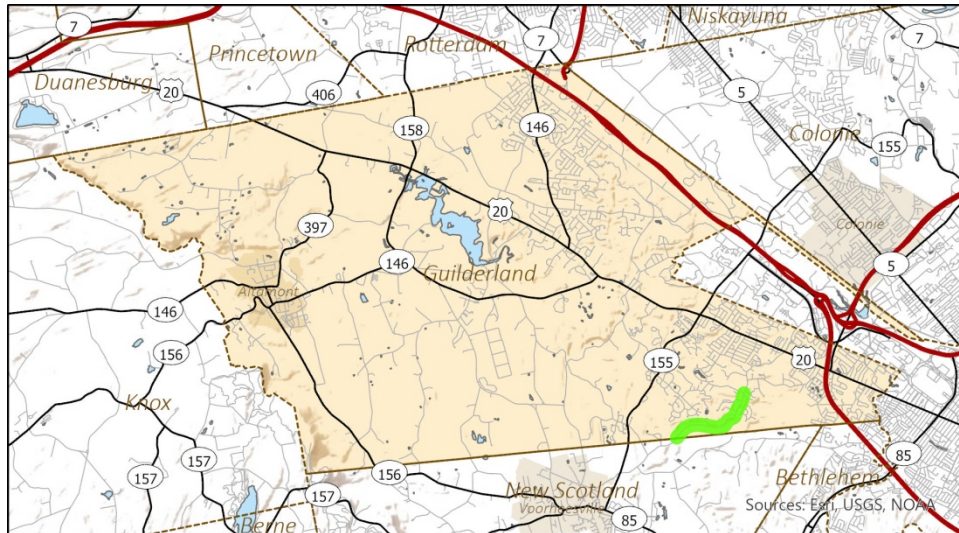
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

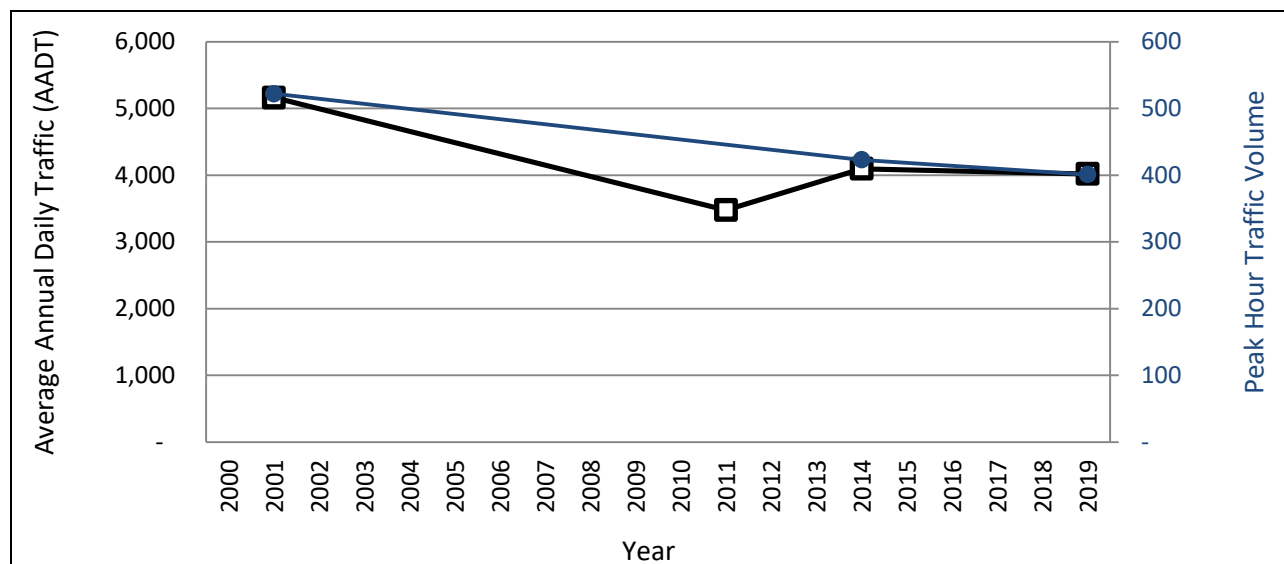
Roadway:
CR 203/Johnston Rd

Limits:
Town Line to Veeder Rd

NYSDOT Station ID:
116732



Traffic Counts: 2000-2019 ¹				
Year	2001	2011	2014	2019
AADT ²	5,163	3,478	4,095	4,018
Peak Hour	522	n/a	423	401



AADT Compound Annual Growth Rate (2001-2019): **-1.5%**

Peak Hour Compound Annual Growth Rate (2001-2019): **-1.5%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

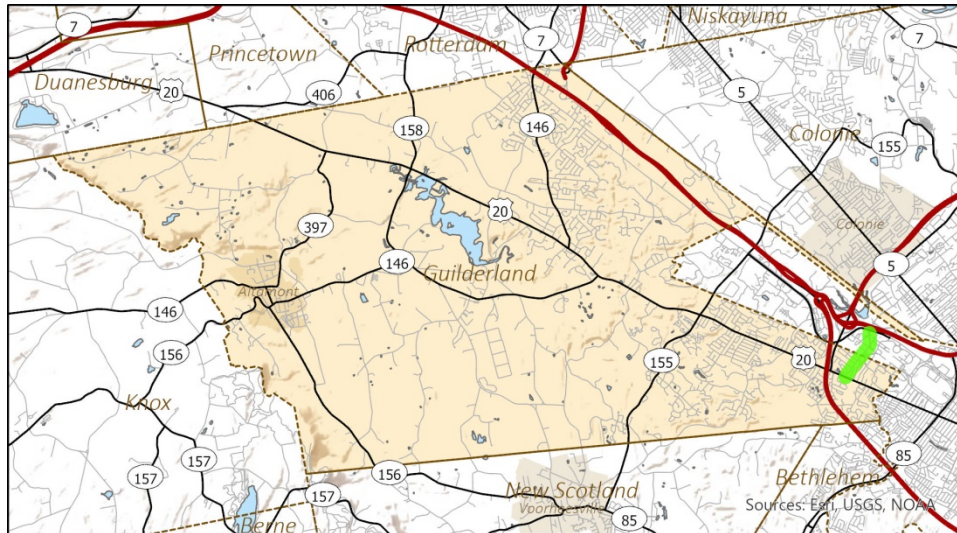
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

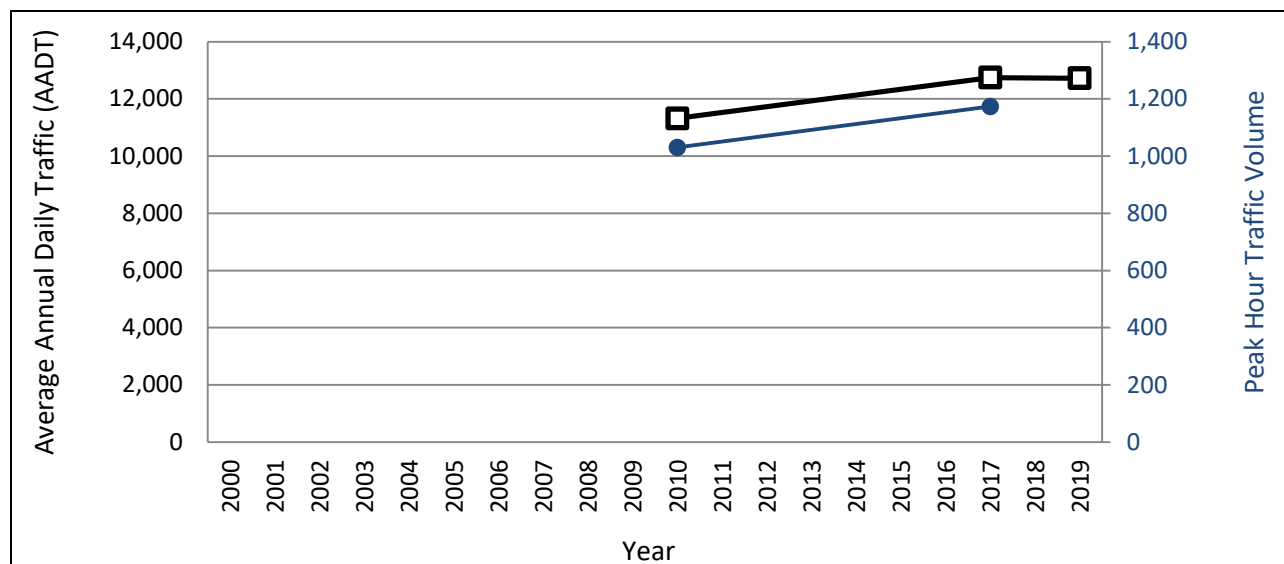
Roadway:
CR 156/Fuller Rd

Limits:
US 20/Western Ave to Washington Ave

NYSDOT Station ID:
111124



Traffic Counts: 2000-2019 ¹			
Year	2010	2017	2019*
AADT ²	11,319	12,747	12,720
Peak Hour	1,030	1,173	n/a



AADT Compound Annual Growth Rate (2010-2019): **1.5%**

Peak Hour Compound Annual Growth Rate (2010-2017): **2.2%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021; *2019 counts are estimates provided by NYSDOT

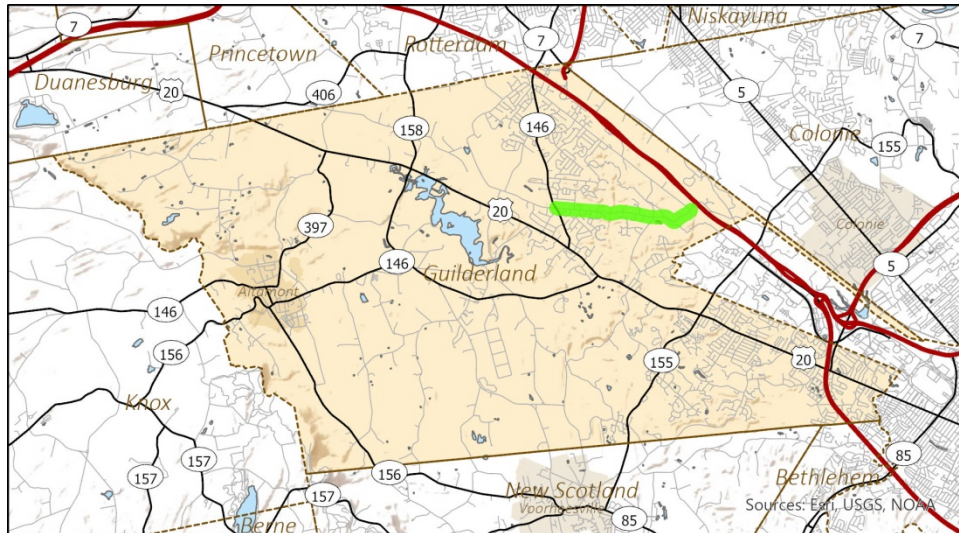
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

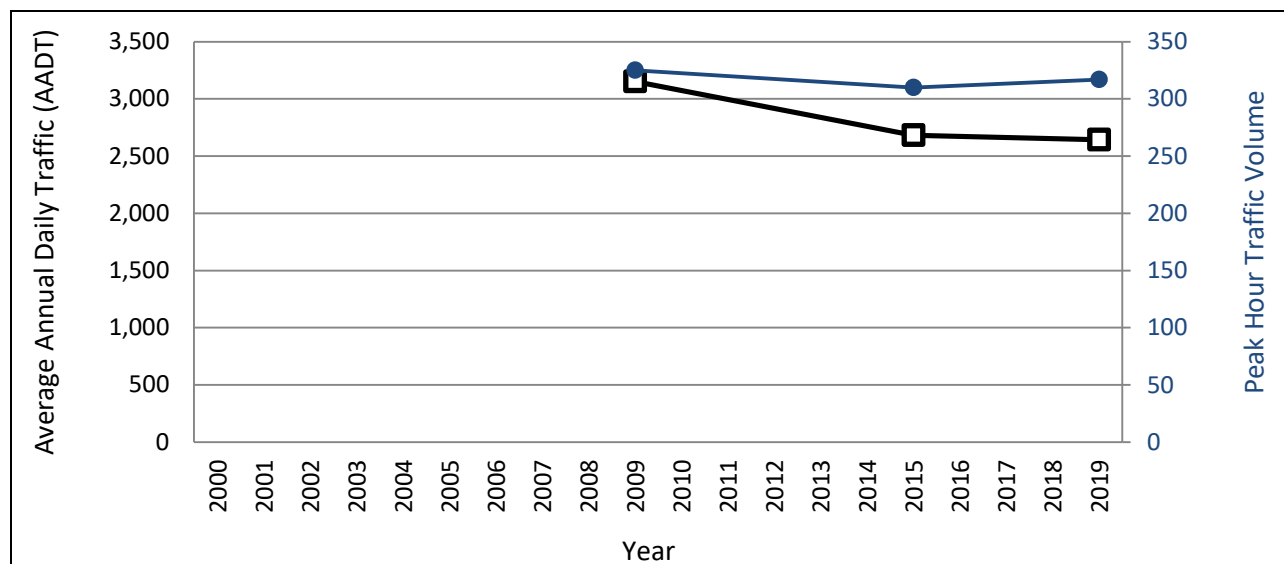
Roadway:
Old State Rd (East)

Limits:
NY 146/Carman Rd to Lydius St

NYSDOT Station ID:
111218



Traffic Counts: 2000-2019 ¹			
Year	2009	2015	2019
AADT ²	3,153	2,682	2,644
Peak Hour	325	310	317



AADT Compound Annual Growth Rate (2009-2019): **-1.9%**

Peak Hour Compound Annual Growth Rate (2009-2019): **-0.3%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

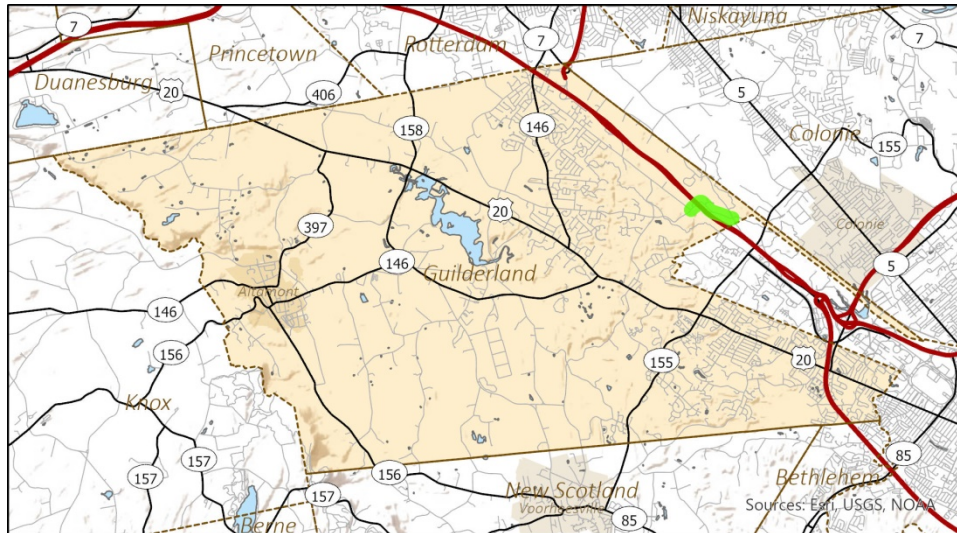
² AADT = Average Annual Daily Traffic

Traffic Volume Trends Summary

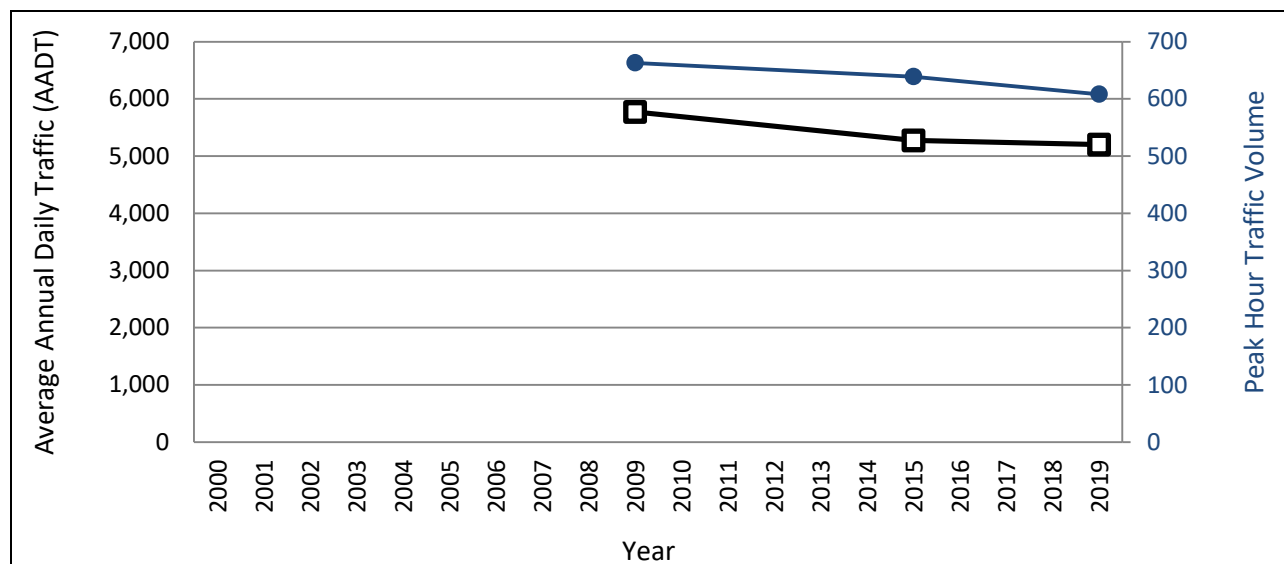
Roadway:
Old State Rd (East)

Limits:
Lydius St to Kings Rd

NYSDOT Station ID:
116770



Traffic Counts: 2000-2019 ¹			
Year	2009	2015	2019
AADT ²	5,770	5,273	5,199
Peak Hour	663	639	608



AADT Compound Annual Growth Rate (2009-2019): **-1.3%**

Peak Hour Compound Annual Growth Rate (2009-2019): **-1.0%**

¹ Data Source: NYSDOT Highway Data Services Bureau AADTs accessed via <https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services> on 9/7/2021

² AADT = Average Annual Daily Traffic