TOWN OF GORDONSVILLE COMMUNITY MOBILITY PLAN

Gordonsville, Tennessee

GORDONSVILLE, TN
come grow with us

TN TDOT
Department of Transportation

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Prepared by

Funded by

RESOLUTION 23-06-12: CMP

A RESOLUTION TO ADOPT
THE TOWN OF GORDONSVILLE COMMUNITY MOBILITY PLAN
JUNE 2023

WHEREAS, Town of Gordonsville Staff and stakeholders have met to discuss and provide input in the development of the plan.

WHEREAS, the Tennessee Department of Transportation funded the plan through a Community Transportation Planning Grant.

WHEREAS, the Town of Gordonsville Council desires to improve the safety and operations of the East Main Street and Gordonsville Highway intersection for all road users.

WHEREAS, the Town of Gordonsville will implement desired components of the Community Mobility Study to the extent possible as resources are available.

NOW, THEREFORE, BE IT RESOLVED by the Town of Gordonsville's Council that the Gordonsville Community Mobility Study (attached) is adopted.

Mayor, Town of Gordonsville

ATTEST: Michael Ray

Recorder

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1.0 Introduction

The Town of Gordonsville is located along I-40 about halfway between Lebanon and Cookeville. Two State Routes provide local connectivity: East Main Street (State Route (SR) 141), which runs east/west through downtown Gordonsville, and Gordonsville Highway (SR 53), which runs north/south and provides access to the town of Carthage, the county seat of Smith County.

The intersection of East Main Street and Gordonsville Highway is the focus of this study. This intersection provides critical access to the Town of Gordonsville – acting as gateway to the Town's historical downtown and a key detour route for I-40 when necessary. The East Main Street and Gordonsville Highway intersection experiences some of the highest traffic volumes in the area and is a primary route for access to Smith County schools and regional recreation destinations (such as Caney Fork River, Center Hill Lake, and Edgar Evins State Park, among others).

Planning Process

The purpose of this Community Mobility Plan is to identify transportation infrastructure recommendations to improve safety and mobility at the priority intersection of East Main Street and Gordonsville Highway over the next 30 years. This plan provides an overview of existing conditions and identifies recommendations and design concepts to address the most critical safety issues at the priority intersection (Figure 1-1). Additional recommendations are included to improve access to businesses, the Gordonsville downtown, schools, and other community destinations for people walking, bicycling, and driving through the study area.

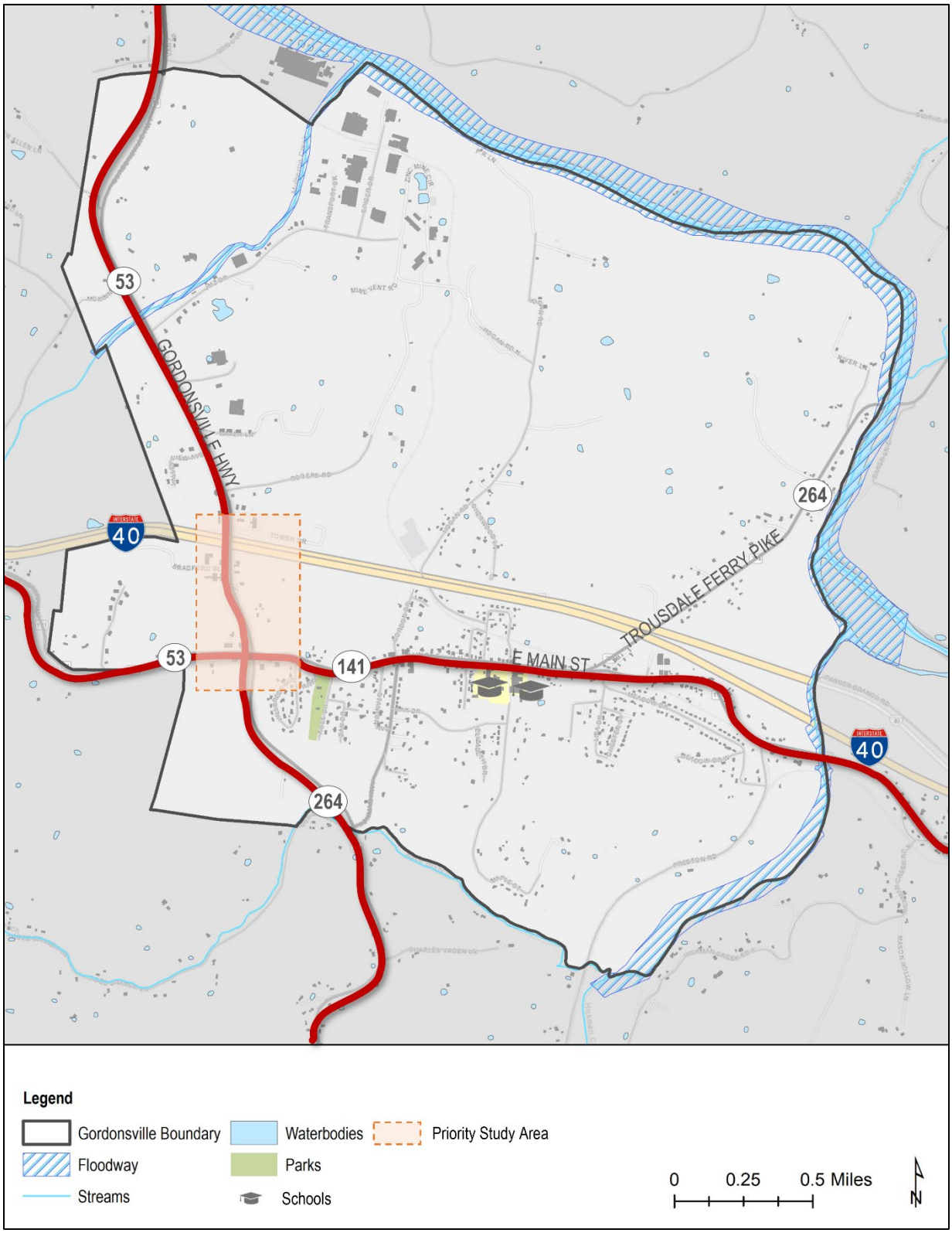
Recommended improvements were coordinated with existing and planned Tennessee Department of Transportation (TDOT) projects, and the previous recommendations included in the 2017 *Community Transportation Planning Grant – Gordonsville SR 53/141 Corridor Study* were analyzed and updated. Additionally, planning level cost estimates and funding recommendations were identified to aid implementation efforts.

The planning process was completed in eight months, as shown in Table 1-1, and included a Steering Committee of representatives from the Town of Gordonsville. Meetings were held with stakeholders at various project milestones to provide critical input and direction for future planning tasks, and a project website and interactive mapping tool were utilized to gather input from the broader community. Key feedback from the virtual public engagement is summarized in Appendix A. Final recommendations were presented and approved at the Town of Gordonsville's April 2023 Council meeting.

Table 1-1. Planning Process Timeline

Task	2022				2023			
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Public and Stakeholder Engagement								
Existing Conditions and Needs Assessment								
Recommendations Development								
Completion of Plan Document								

Figure 1-1. Study Area



Grant Overview

TDOT's Long Range Planning Division administers the Transportation Planning Grant (TPG) program to assist both urban and rural areas across Tennessee by providing planning resources for communities to identify strategies that promote an efficient, multimodal transportation network. The TPG program is designed to help communities better align local transportation investments with regional land use planning to better meet statewide transportation objectives.

The Town of Gordonsville was one of the grant recipients for the TPG's 2022-2023 grant cycle and received funding to support the development of a Community Mobility Plan for the intersection of East Main Street and Gordonsville Highway.

Vision, Goals, and Objectives

Based on input from stakeholders, a long-term vision was developed for the intersection of East Main Street and Gordonsville Highway. Four goals were developed to achieve that vision, with specific objectives identified that help provide local stakeholders with actionable steps to promote improved safety and mobility at the priority intersection as well as throughout the Town of Gordonsville.

Goal 1: Safety – Promote the safe movement of all road users.

1.1. Ensure safe and convenient travel options for all roadway users by minimizing conflict points through design.

1.2. Address Americans with Disability Act (ADA) concerns and pedestrian infrastructure deficiencies.

1.3. Identify funding needs for the construction and maintenance of infrastructure.

Vision Statement

The Gordonsville Highway/East Main Street intersection provides safe mobility options for all road users while supporting sustainable growth, reliable connectivity, and improved quality of life for residents and visitors alike.

Goal 2: Future Growth – Support local economic development.

2.1. Identify opportunities for improved pedestrian infrastructure providing access to businesses and other key destinations.

2.2. Define operational improvements for easier access to local businesses.

2.3. Relate current planning efforts to future development needs.

Goal 3: Thoughtful Planning – Encourage a thoughtful planning approach to land use development.

3.1. Identify the role of all road users and their connection to development along the corridor.

3.2. Evaluate the transportation needs of existing land uses along the corridor.

3.3. Align with land use planning efforts to identify transportation opportunities and plan for future needs.

3.4. Coordinate with TDOT and other regional partners to ensure roadway improvements meet the need of future development.

Goal 4: Manage Access – Address access management policies for future development.

4.1. Collect and analyze data to ensure the best approaches to improve access management are identified within the plan.

4.2. Review existing policies and procedures regarding access management and consider future-focused solutions.

Figure 1-2. Gordonsville Highway and East Main Street (looking east)

2.0 Existing Conditions and Needs

The following sections detail existing conditions within the Town of Gordonsville to provide an overview of transportation issues and opportunities within the study area.

Demographics

The Town of Gordonsville is located within Smith County, which has experienced relatively stable population growth over the past decade, from 19,025 people in 2010 to 19,926 people in 2020 (a 4.7% increase). During the same period, the Town of Gordonsville has grown by 16.2%, from a population of 1,332 in 2010 to 1,548 in 2020, according to the Decennial Census.

According to the Census Bureau's Longitudinal Employer-Household Dynamics survey, of the more than 1,500 people who are employed in the Town of Gordonsville, 4.7% live and work within the town, while 95.3% live elsewhere but commute in for work. Key employment sectors in Gordonsville include manufacturing, education, retail, and construction. Residents who live in the Town of Gordonsville and commute elsewhere for work primarily travel north to Carthage and northern Smith County, southwest into western Smith County, and east into Cookeville. General employment and wage trends are included in Table 2-1.

Table 2-1. Employment and Wage Trends (2016 – 2020)

	Unemployment Rate	Poverty Rate	Median Income
Gordonsville	4.9%	10.7%	$57,902
Smith County	3.7%	14.7%	$48,611
Tennessee	5.3%	14.6%	$54,833

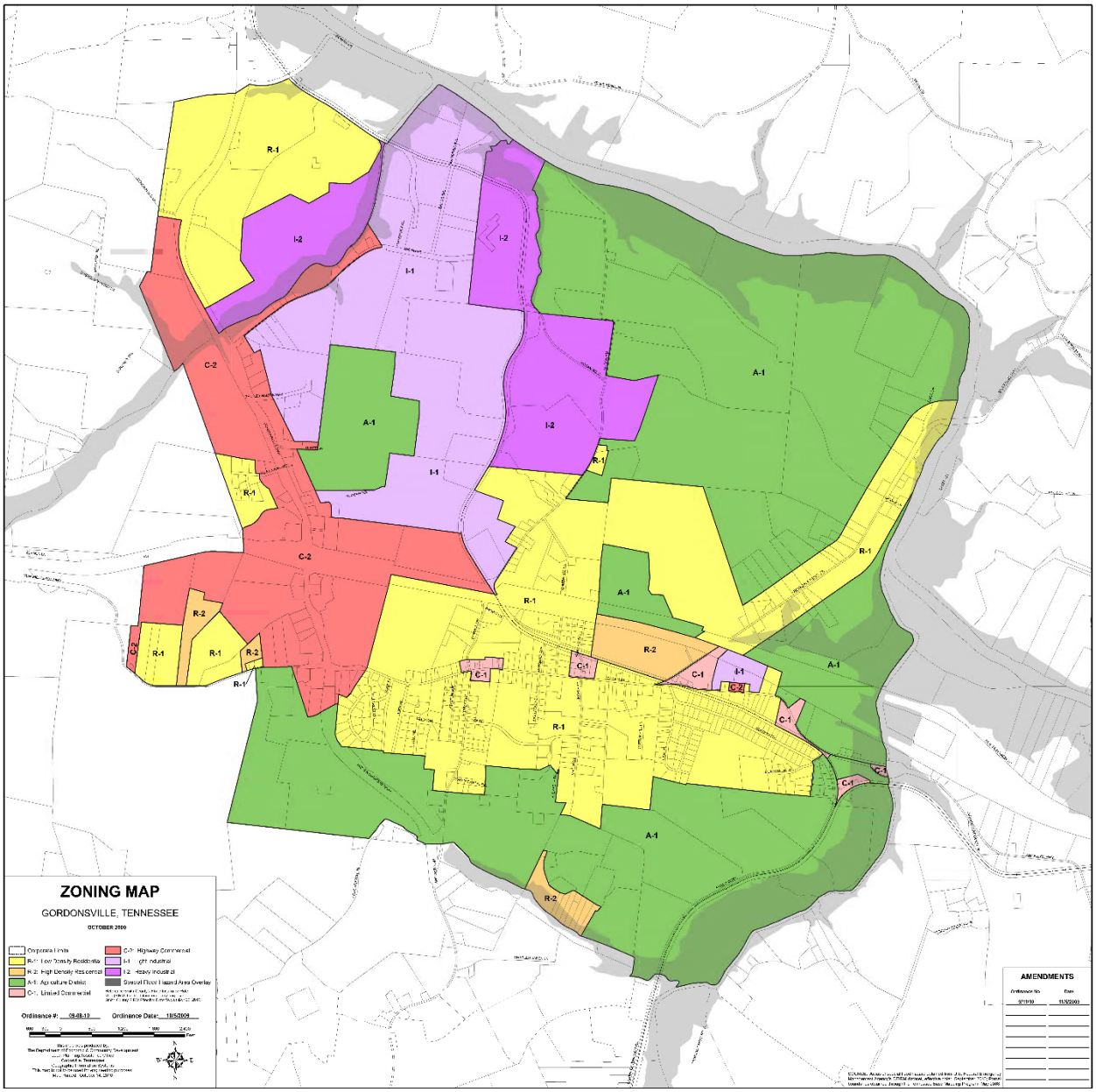
Source: U.S. Census, American Community Survey 5-Year Estimates

Zoning and Land Use

Identifying the Town of Gordonsville's existing zoning provides an understanding of the community's current transportation needs, as each zoning category permits different types of development that attract and generate varying levels of traffic. As shown in Figure 2-1, the intersection of East Main Street and Gordonsville Highway is zoned entirely for highway commercial development. Currently, the study area's existing land use shows a broader mix of uses, including single family residential and agricultural uses. Existing vacant parcels will likely redevelop in the future to include additional businesses and other types of commercial development.

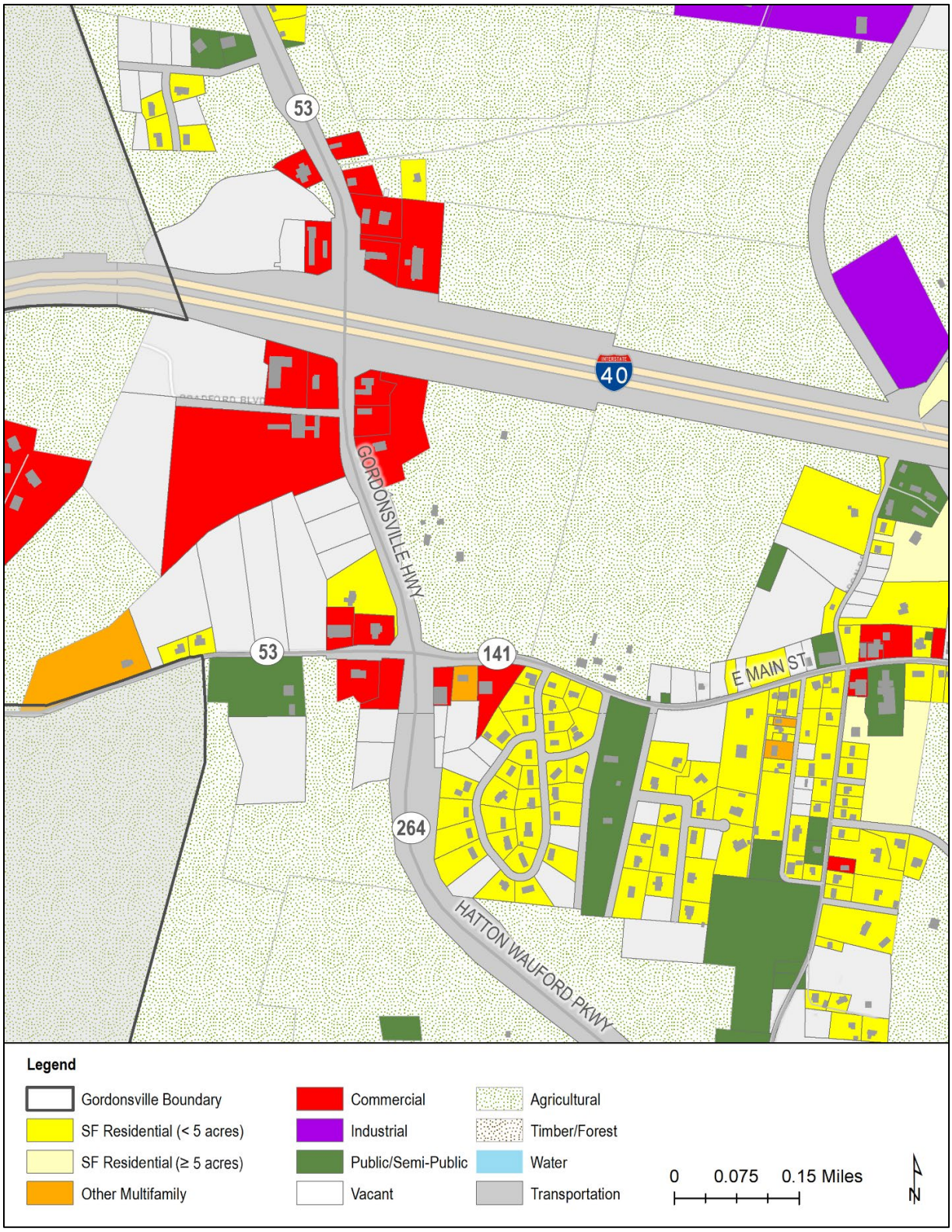
The rest of Gordonsville is zoned for residential, agricultural, and industrial uses. This mix of zoning supports Gordonsville's existing employers and residents as well as the future residential developments expected to occur within the Town's boundaries. These include a large mixed-use residential development (117 acres) that will be located off Gordonsville Highway between Rogers Road and Baker Lane, and a high-density residential development (100 acres) that will be located just north of I-40 on Trousdale Ferry Pike. The impact of these future developments is incorporated into the operations modeling for future conditions.

Figure 2-1. Existing Zoning



Source: Department of Economic & Community Development Local Planning Assistance Office, Cookeville TN

Figure 2-2. Existing Land Use



Source: Tennessee Comptroller of the Treasury, Land Use Maps (2022)

Safety

Crash data for the study area was evaluated for the past five years (2018 – 2022) using TDOT eTRIMS data to identify crash patterns along the East Main Street and Gordonsville Highway corridors that may warrant safety countermeasures and other types of safety improvements, particularly at the primary study intersection (Table 2-2). Over the past five years, 78 crashes occurred within the study area, and of these, the vast majority of crashes (90%) resulted in property damage only. Of the remaining 8 incidents, 2 crashes (2.5%) resulted in a serious injury and 6 crashes (7.7%) resulted in a minor injury. During the analyzed time period, there were no fatality crashes. As shown in Figure 2-3, the highest number of crashes were concentrated around the on- and off-ramps to I-40 and at the priority intersection of East Main Street and Gordonsville Highway.

Table 2-2. Reported Crashes (2018 – 2022)

Crash Description	2018	2019	2020	2021	2022	Total
Nonmotorized	0	0	0	0	0	0
Motorized	20	11	20	15	12	78

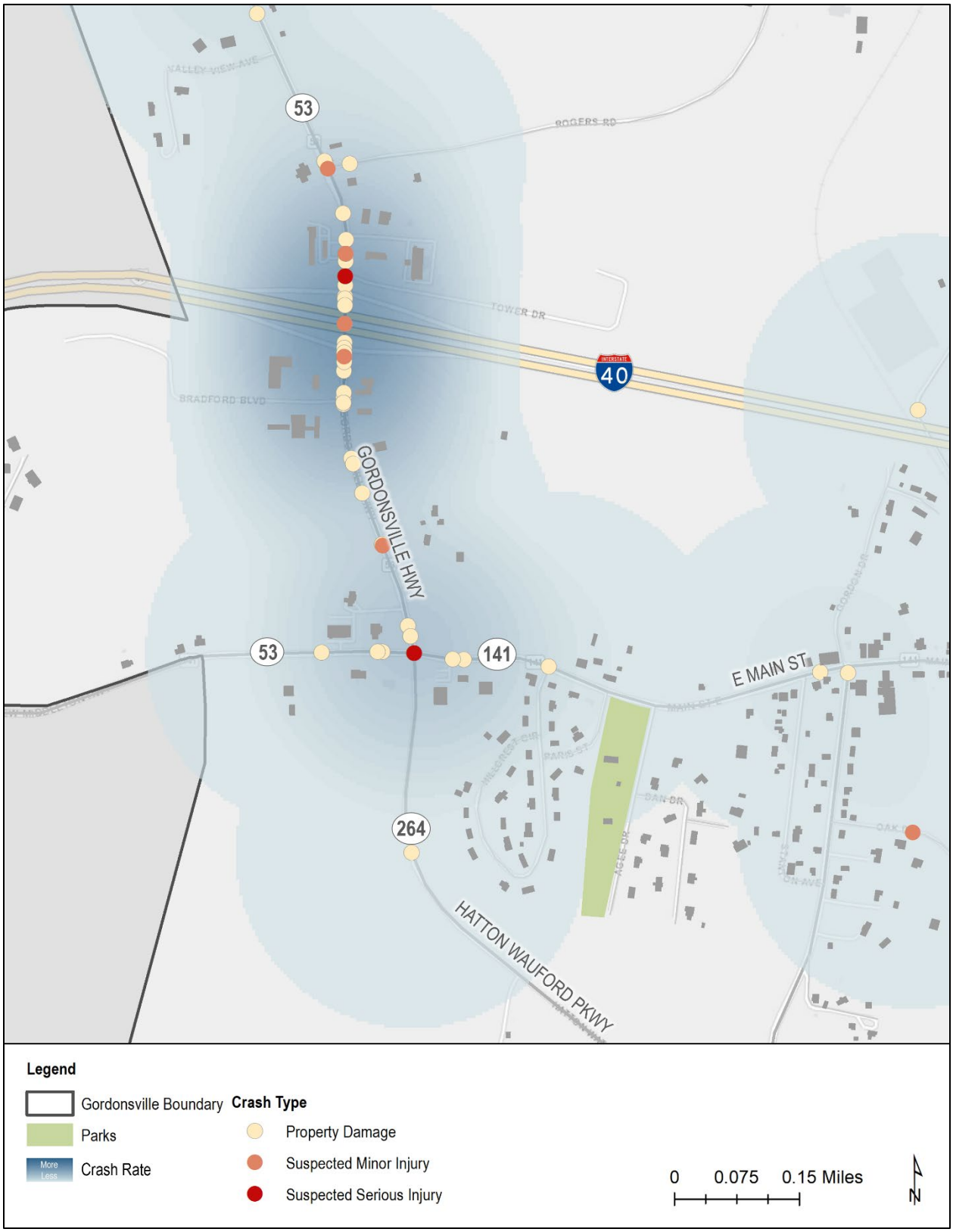
Table 2-3 displays the motorized crash summary within the study area between 2018 – 2022, including reported crash types and associated injuries or property damage.

Table 2-3. Motorized Crash Summary (2018 – 2022)

Crash Type	Angle	Head-On	Single Vehicle	Rear-End	Sideswipe (Opposing Direction)	Sideswipe (Same Direction)	Unknown	Total
Fatal	0	0	0	0	0	0	0	0
Serious Injury[1]	0	0	1	0	1	0	0	2
Minor Injury[1]	1	1	1	2	0	1	0	6
Property Damage (Over)[2]	22	3	10	17	3	7	5	67
Property Damage (Under)	0	0	0	1	0	0	2	3
Total	**23**	**4**	**12**	**20**	**4**	**8**	**7**	**78**

[1] This represents the total # of crash events, total # of injured person(s) may be higher
[2] Filed crash reports per provisions of 55-12-104 T.C.A. in excess of $400 to any person involved

Figure 2-3. Study Area Crashes (2018 - 2022)



Traffic Volumes and Operations

TDOT collects information on daily traffic volumes for major roadway corridors across the state. Reported as Annual Average Daily Traffic (AADT) volumes, this data represents the number of vehicles that travel along a particular roadway every day of the year on average. The transportation system in the Town of Gordonsville is comprised of roadways with AADT volumes ranging from less than 300 to more than 11,000 vehicles per day (Figure 2-5). The two primary collectors, East Main Street and Gordonsville Highway, are more heavily traveled than the Town's local roadways. These arterials also experience the majority of the area's commercial freight traffic, which varied between 3% and 10% of Gordonsville's AADT in 2021.

Intersection turning movement counts were collected at the priority intersection. Specifically, counts were conducted from 7:00 – 9:00 AM and 4:00 – 6:00 PM on a typical weekday in October 2022 while local schools were in session. From the counts, it was determined that the peak hours of traffic flow occur during 7:00 – 8:00 AM and 4:45 – 5:45 PM. The existing peak hour turning movement volumes are presented in Figure 2-6 and Figure 2-7.

Capacity analyses were performed for the AM and PM peak hours to determine the current operation of the study intersection. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*, *6th Edition*. The capacity analyses result in the determination of a Level of Service (LOS) for an intersection.

Level of Service is used as a measure of how well an intersection or roadway segment operates. LOS is used to generally describe a road's traffic conditions and how well it moves vehicles, by comparing traffic volumes and roadway capacity. A road's capacity is generally determined by its speed and number of lanes, and each road is assigned a letter grade between A and F, where LOS A is assigned to roads with free flow conditions and LOS F represents roads where demand exceeds capacity. For intersections, the LOS scores are associated with seconds of delay per vehicle. LOS D is typically considered as the minimum acceptable LOS for an intersection in a developed area. A description of LOS scores is presented in Table 2-4 for each critical turning movement and is measured in seconds of delay per vehicle for both signalized and unsignalized intersections.

Table 2-4. Vehicular Level of Service for Intersections

LOS Score	Description	Unsignalized Delay (Seconds per Vehicle)	Signalized Delay (Seconds per Vehicle)
A	Little or no traffic delay	≤ 10	≤ 10
B	Short traffic delay	>10 and ≤ 15	>10 and ≤ 20
C	Average traffic delay	>15 and ≤ 25	>20 and ≤ 35
D	Long traffic delay	>25 and ≤ 35	>35 and ≤ 55
E	Very long traffic delay	>35 and ≤ 50	>55 and ≤ 80
F	Extreme traffic delay	> 50	> 80

Source: Highway Capacity Manual, 6th Edition

The results of the capacity analyses for the existing conditions at the study intersection are presented in Table 2-5. As shown, all critical movements operate at LOS D or better in the AM and PM peak hours. Capacity analyses worksheets are included in Appendix B.

Table 2-5. Existing Peak Hour Levels of Service

Intersection	Intersection Approach	Level of Service (Average Delay in Seconds per Vehicle)	
		AM Peak Hour	PM Peak Hour
East Main Street and Gordonsville Highway/Hatton Wauford Parkway	Northbound	B (11.1)	A (9.6)
	Southbound	C (15.2)	B (13.0)
	Eastbound	B (12.2)	B (10.8)
	Westbound	B (12.5)	B (10.4)

Figure 2-4. Intersection of Gordonsville Highway and East Main Street (looking north)

Figure 2-5. Annual Average Daily Traffic Volumes (2021) and Roadway Functional Classification

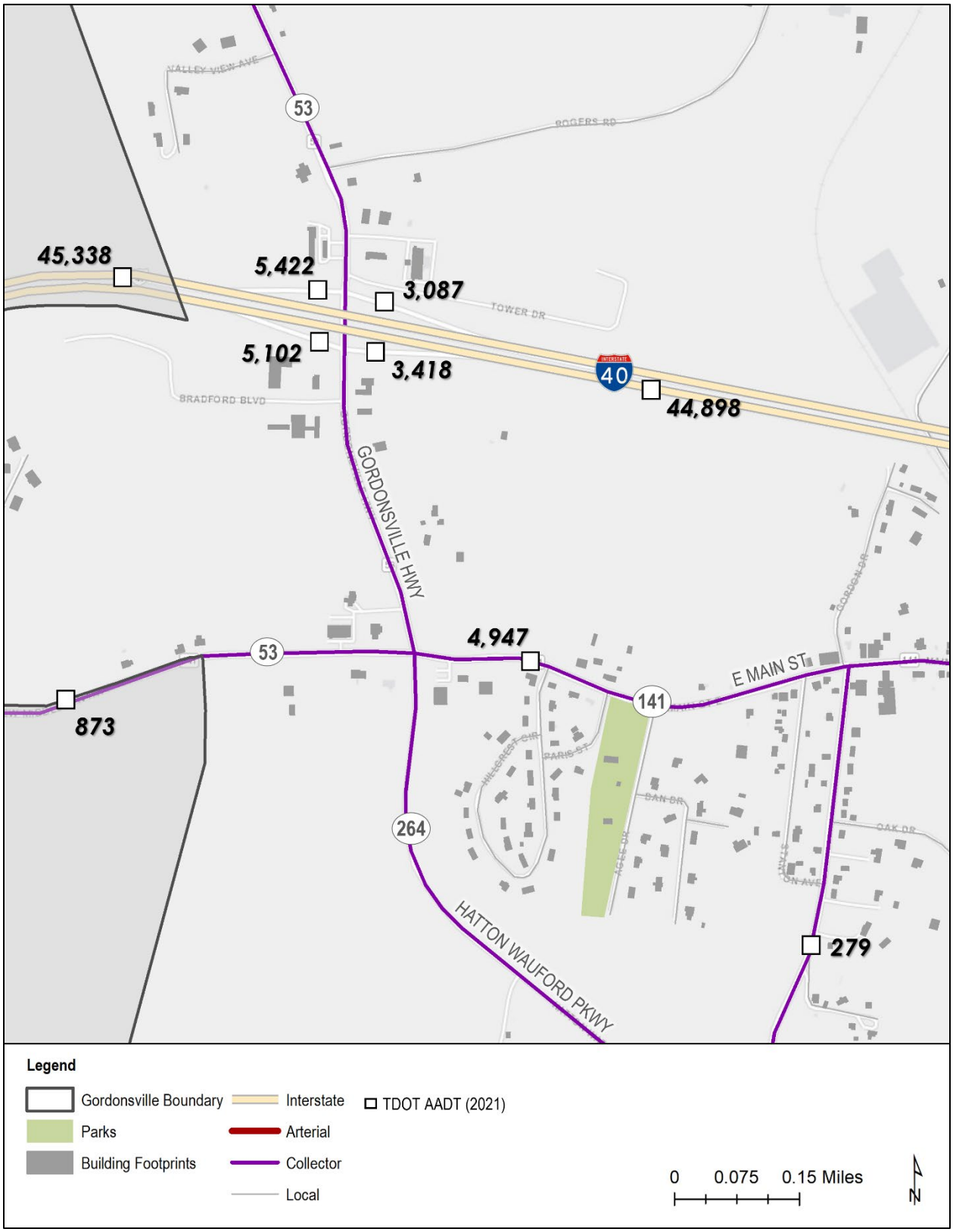


Figure 2-6. Existing AM Levels of Service and Turning Movement Volumes

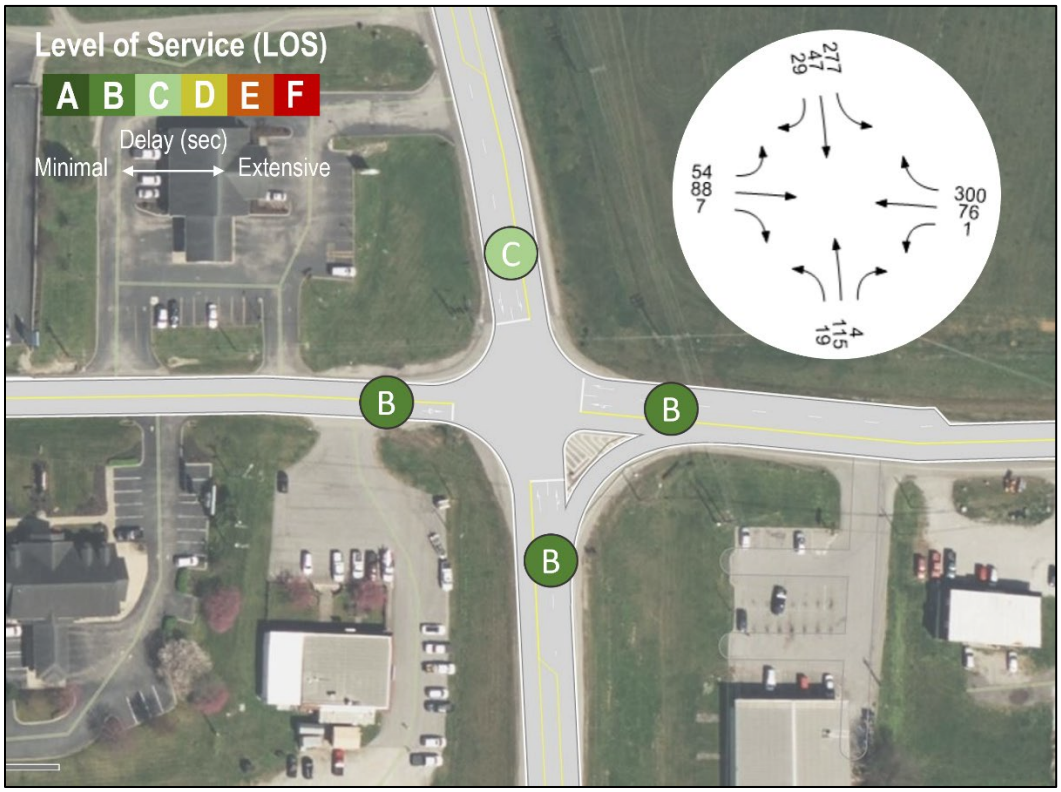
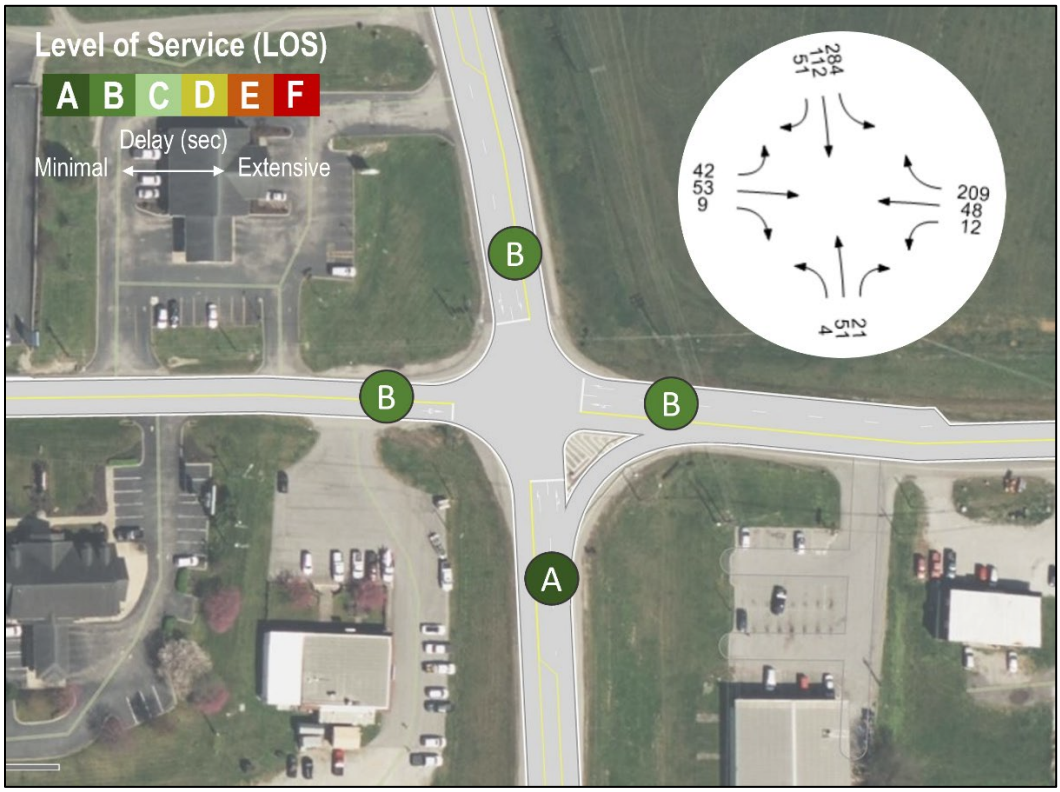


Figure 2-7. Existing PM Levels of Service and Turning Movement Volumes



3.0 Future Conditions

As Gordonsville continues to grow and develop over the next 30 years, the Town's transportation system will need to adapt and change to meet the needs of increased demand. To understand the impacts of future development, forecasted traffic conditions were modeled. The following sections describe the assumptions used to document known large parcel developments, likely future land use types, and future mobility needs within the study area.

Zoning and Land Use

Because the Town of Gordonsville does not currently have a future land use map, future land use patterns within the study area have been extrapolated based on existing permitted zoning and known future development patterns. As described in Section 2, the Gordonsville Highway and East Main Street corridors are zoned almost entirely for commercial uses. Many of these commercially zoned parcels are currently utilized as agricultural land, particularly those concentrated around the primary study intersection. In the future, these vacant and agricultural parcels will likely continue to develop into a denser conglomeration of businesses within the Highway Commercial District.

As Gordonsville continues to grow, analysis of the traffic and mobility-related impacts should be conducted to ensure that the transportation system continues to function safely and efficiently. The future conditions model included additional traffic generation from two residential developments currently under construction along Gordonsville Highway and Trousdale Ferry Pike, as well as assumed growth assumptions within the commercial services district. These assumptions are for scenario purposes only to see how additional traffic would impact network operations. Scenario assumptions are further described below and in Appendix C.

Traffic Volumes and Operations

In order to account for the traffic growth between now and the design years, background traffic volumes were established. For this study, the design years are 2032 and 2052, which are 10- and 30-year horizons, respectively. Historic daily traffic volumes were obtained from the three TDOT count stations located in the vicinity of the project site. Since 2012, the combined traffic at these three TDOT count stations has increased by an average of 3.95% per year. The TDOT count station data is included in Appendix D.

A yearly growth factor was applied to the existing peak hour (7:00 – 8:00 AM and 4:45 – 5:45 PM) traffic volumes to account for background growth for the future conditions. The existing peak hour traffic volumes at the study intersections were increased by 2% per year for ten years to account for anticipated background traffic growth within the study area. This compounding growth is equivalent to overall increases of 22% and 81% from the existing peak hour traffic volumes.

Additionally, it was assumed scenario parcels within the study area would develop prior to 2052 for modeling purposes only. The land uses assigned to each parcel were driven by zoning and stakeholder input. The vehicular trips generated by these new developments were estimated using ITE's *Trip Generation Manual, 11th Edition*. These trips were distributed through the study area to determine the future 2032 and 2052 peak hour traffic volumes. The parcels, land uses, and trip generation assumptions are included in Appendix C.

To determine the operation of the study area intersections under future conditions, capacity analyses were performed for the AM and PM peak hours. The analyses for the future no-build conditions assumed no improvements being made to the intersection, essentially leaving it "as is."

No-Build Model Results, Horizon Years 2032 and 2052

As shown in Table 3-1 and Table 3-2, the capacity analyses indicate that the operational performance of the critical movements at the study intersection is generally expected to continue to operate at the same level of service as under existing conditions or continue to operate at LOS D or better in the AM and PM peak hours in the future horizon years with the following exceptions:

- East Main Street and Gordonsville Highway/Hatton Wauford Parkway
  - The southbound approach is expected to deteriorate to LOS F in the 2052 AM and PM peak hours.
  - The westbound approach is expected to deteriorate from to LOS F in the 2052 AM and PM peak hours.

Table 3-1. No-Build, AM Peak Hour Levels of Service (2032 and 2052)

Intersection	Intersection Approach/Turning Movement	AM Peak Hour Level of Service (Average Delay in Seconds per Vehicle)		
		Existing	No-Build	
			2032	2052
East Main Street and Gordonsville Highway/Hatton Wauford Parkway	Northbound Approach	B (11.1)	B (12.6)	C (24.7)
	Southbound Approach	C (15.2)	C (16.9)	F (146.4)
	Eastbound Approach	B (12.2)	B (14.0)	D (32.4)
	Westbound Approach	B (12.5)	C (16.0)	F (203.9)

Table 3-2. No-Build, PM Peak Hour Levels of Service (2032 and 2052)

Intersection	Intersection Approach/Turning Movement	PM Peak Hour Level of Service (Average Delay in Seconds per Vehicle)		
		Existing	No-Build	
			2032	2052
East Main Street and Gordonsville Highway/Hatton Wauford Parkway	Northbound Approach	A (9.6)	B (11.7)	C (17.6)
	Southbound Approach	B (13.0)	D (27.2)	F (199.2)
	Eastbound Approach	B (10.8)	B (13.2)	C (19.9)
	Westbound Approach	B (10.4)	C (15.8)	F (68.8)

The background peak hour traffic volumes and LOS scores for horizon years 2032 and 2052 are presented in Figure 3-1 through Figure 3-4. Capacity analyses worksheets are included in Appendix B.

Figure 3-1. Future No Build, AM Levels of Service and Turning Movement Counts (2032)

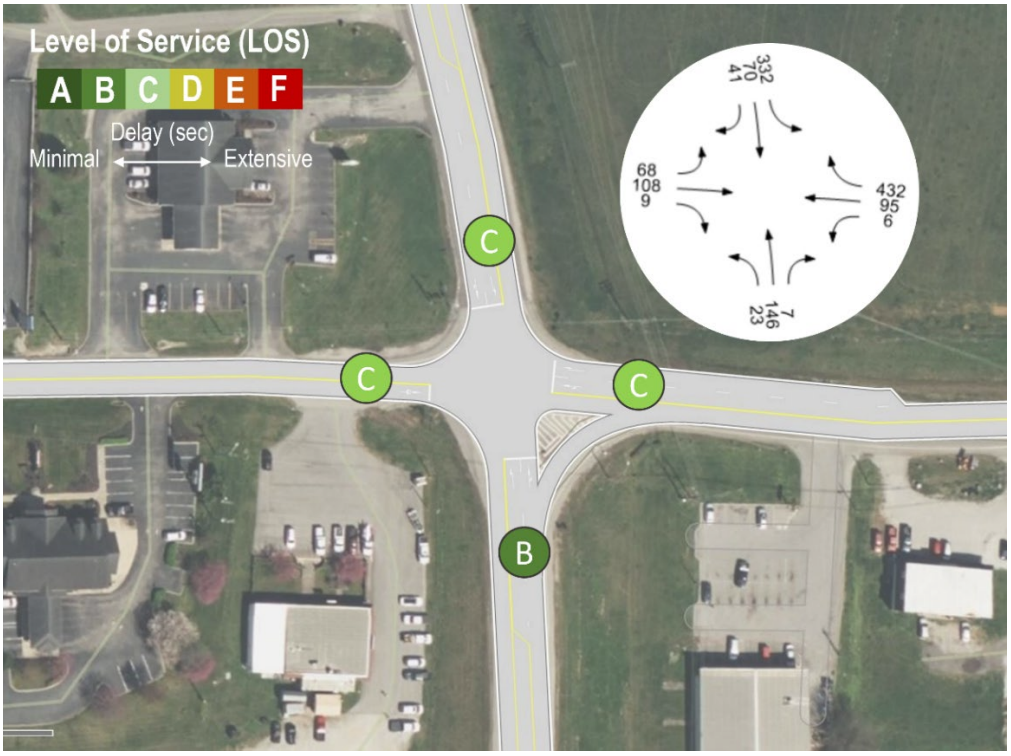


Figure 3-2. Future No Build, PM Levels of Service and Turning Movement Counts (2032)

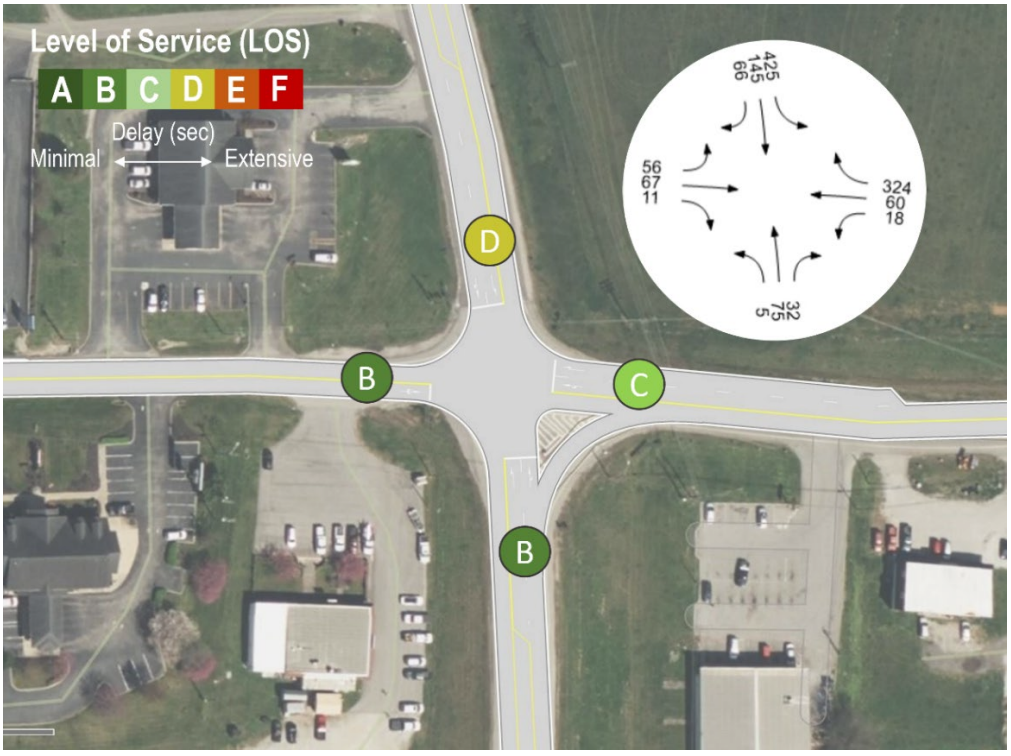


Figure 3-3. Future No Build, AM Levels of Service and Turning Movement Counts (2052)

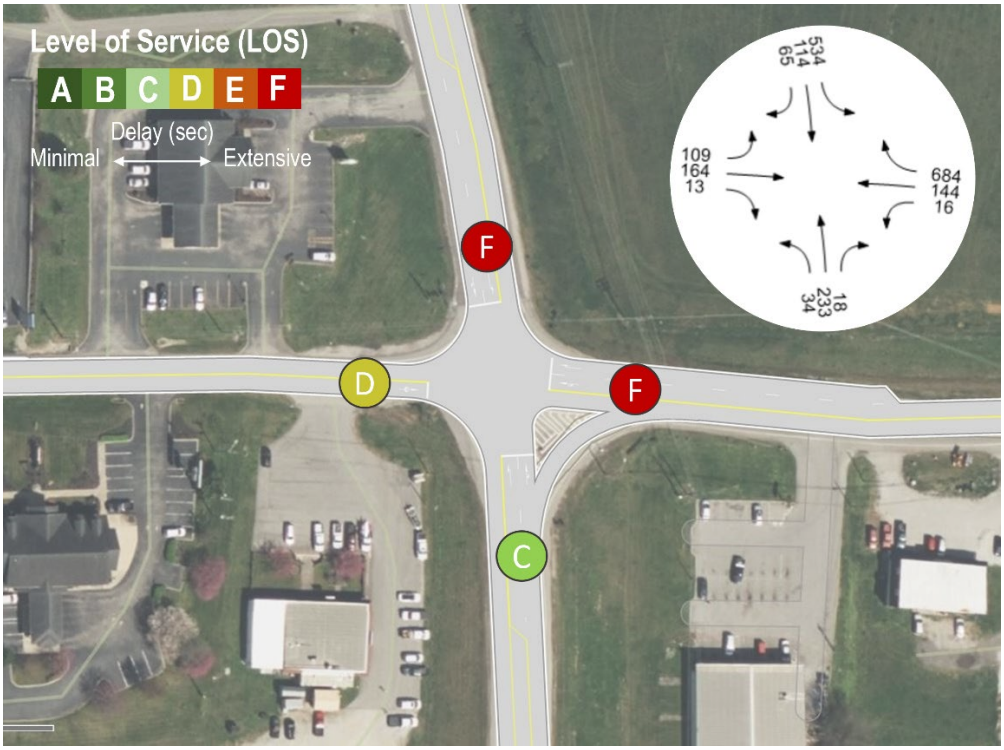
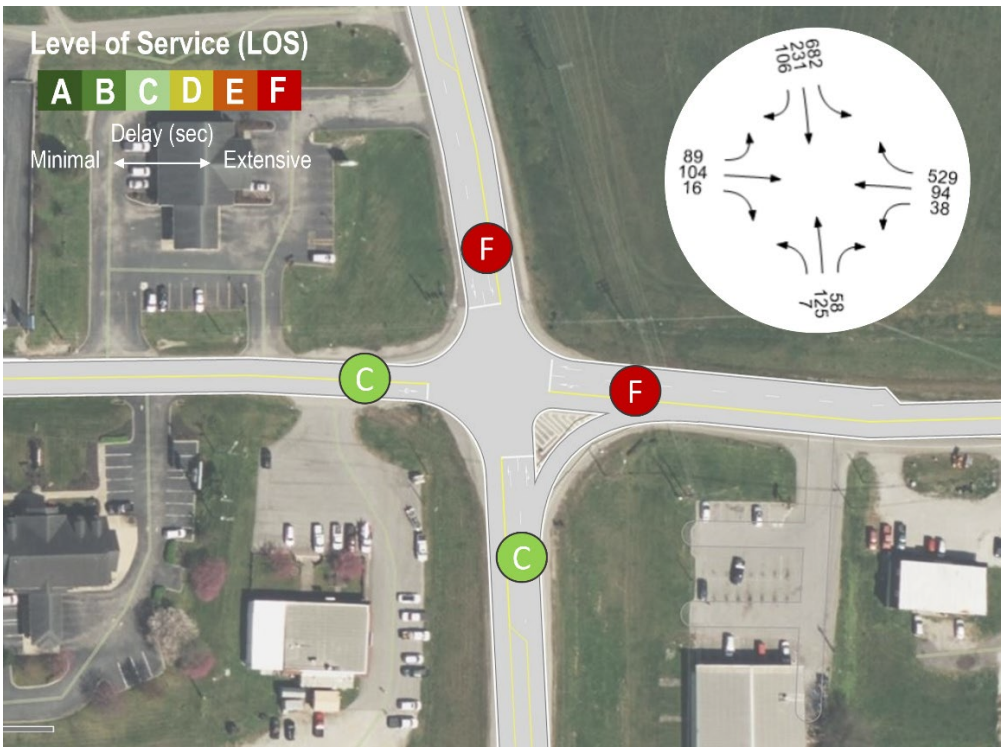


Figure 3-4. Future No Build, PM Levels of Service and Turning Movement Counts (2052)



Build Model Results, Horizon Years 2032 and 2052

As shown in Table 3-1 and Table 3-2, the study intersection is expected to deteriorate in the 2052 no-build scenario. Additional analysis was conducted to determine potential mitigation to improve the future conditions. Based on the traffic volumes and input from community stakeholders and the public, a roundabout with a westbound right-turn slip lane was evaluated as the build scenario. The results of the capacity analysis are shown in Table 3-3 and Table 3-4 for both horizon years (2032 and 2052) with the reconfiguration to a roundabout.

Table 3-3. Build, AM Peak Hour Levels of Service (2032 and 2052)

Intersection	Turning Movement	AM Peak Hour Level of Service (Average Delay in sec./veh.)				
		Existing	No-Build		Build	
			2032	2052	2032	2052
East Main Street and Gordonsville Highway/Hatton Wauford Parkway	Northbound Approach	B (11.1)	B (13.9)	C (24.7)	A (6.9)	B (14.3)
	Southbound Approach	C (15.2)	C (23.2)	F (146.4)	A (6.7)	B (12.2)
	Eastbound Approach	B (12.2)	C (15.5)	D (32.4)	A (6.2)	B (11.2)
	Westbound Approach	B (12.5)	C (23.6)	F (203.9)	A (6.9)	B (14.5)

Table 3-4. Build, PM Peak Hour Levels of Service (2032 and 2052)

Intersection	Turning Movement	PM Peak Hour Level of Service (Average Delay in sec./veh.)				
		Existing	No-Build		Build	
			2032	2052	2032	2052
East Main Street and Gordonsville Highway/Hatton Wauford Parkway	Northbound Approach	A (9.6)	B (11.7)	C (17.6)	A (6.2)	B (11.9)
	Southbound Approach	B (13.0)	D (27.2)	F (199.2)	A (8.5)	C (23.6)
	Eastbound Approach	B (10.8)	B (13.2)	C (19.9)	A (6.9)	B (14.2)
	Westbound Approach	B (10.4)	C (15.8)	F (68.8)	A (5.2)	B (11.6)

The projected peak hour traffic volumes and LOS scores for horizon years 2032 and 2052 are presented in Figure 3-5 through Figure 3-8. Capacity analyses worksheets are included in Appendix B.

Figure 3-5. Future Build, AM Levels of Service and Turning Movement Counts (2032)

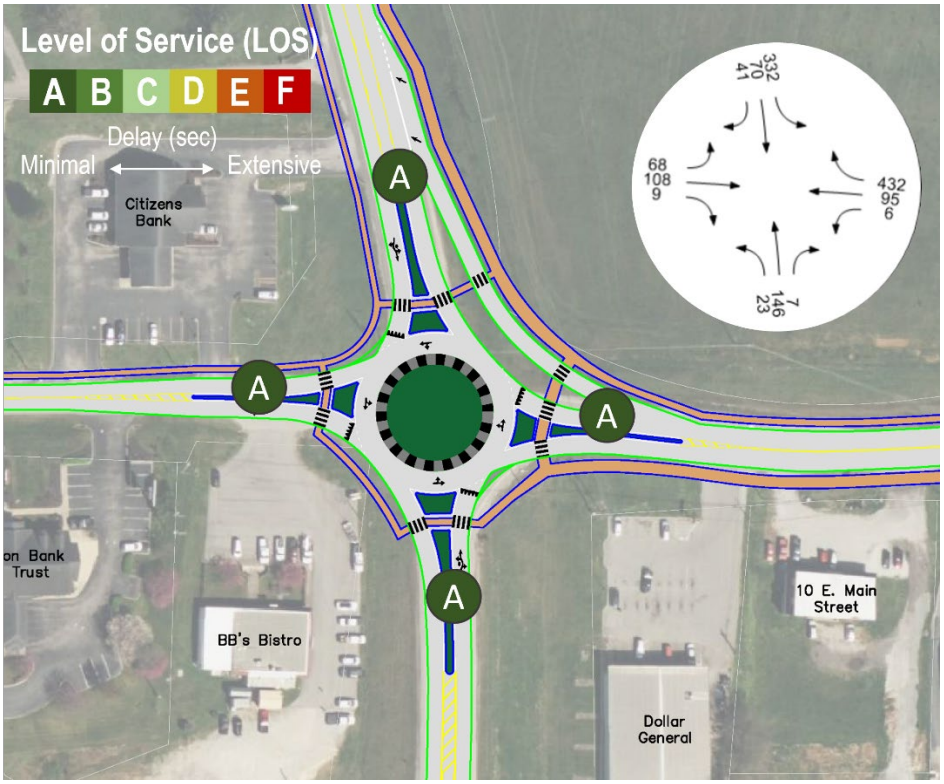


Figure 3-6. Future Build, PM Levels of Service and Turning Movement Counts (2032)

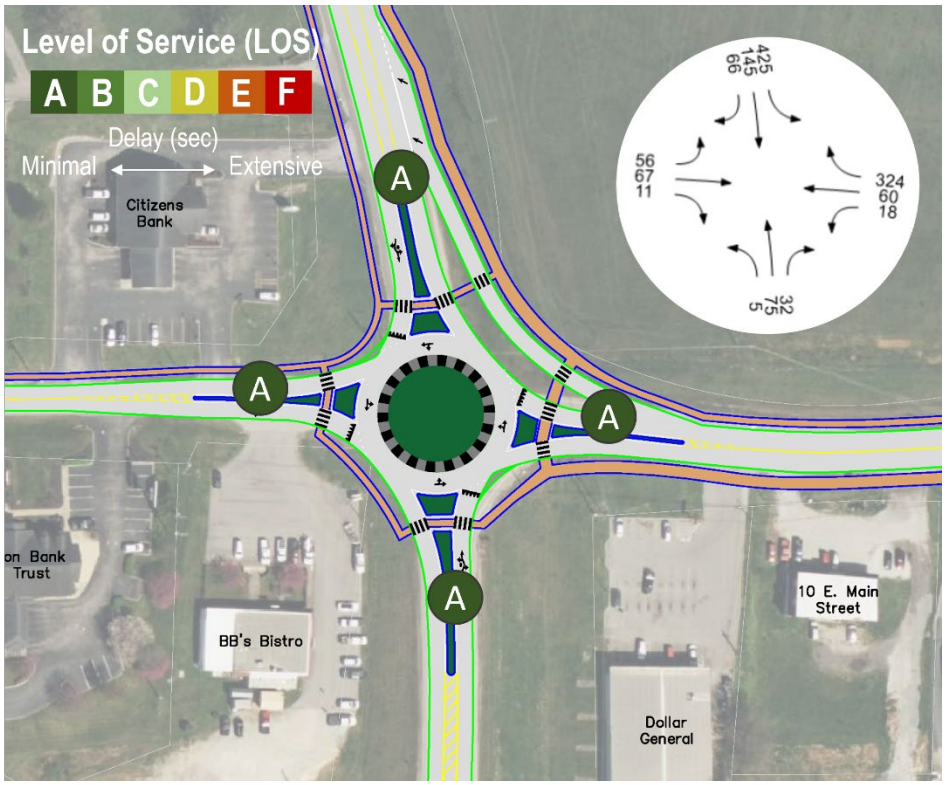


Figure 3-7. Future Build, AM Levels of Service and Turning Movement Counts (2052)

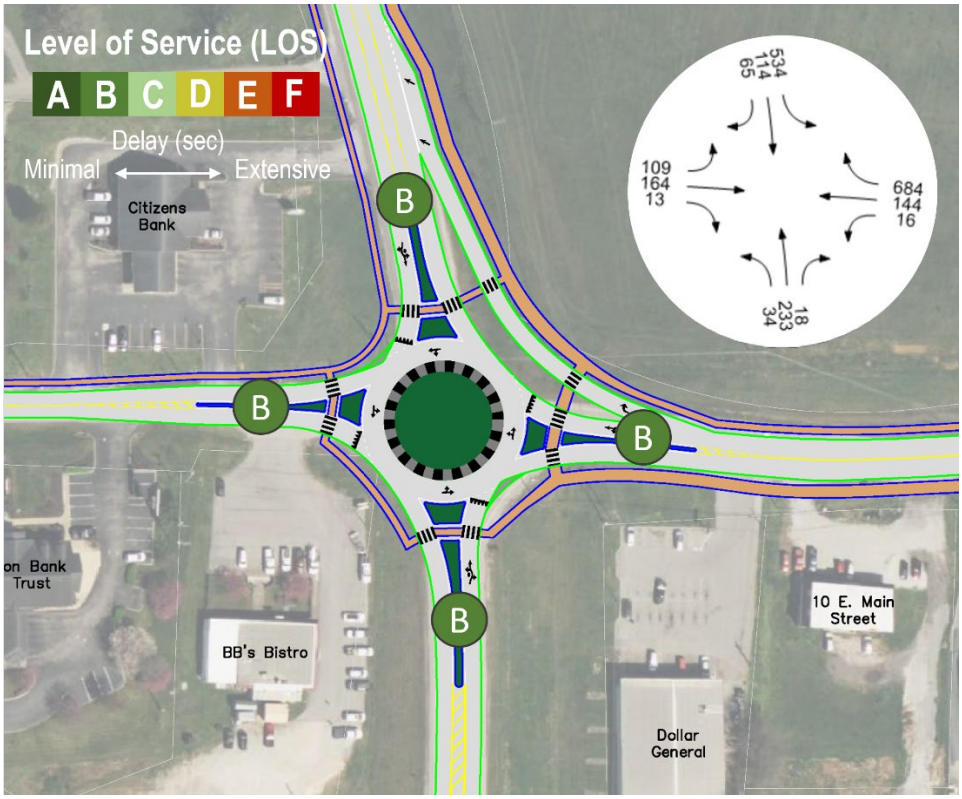
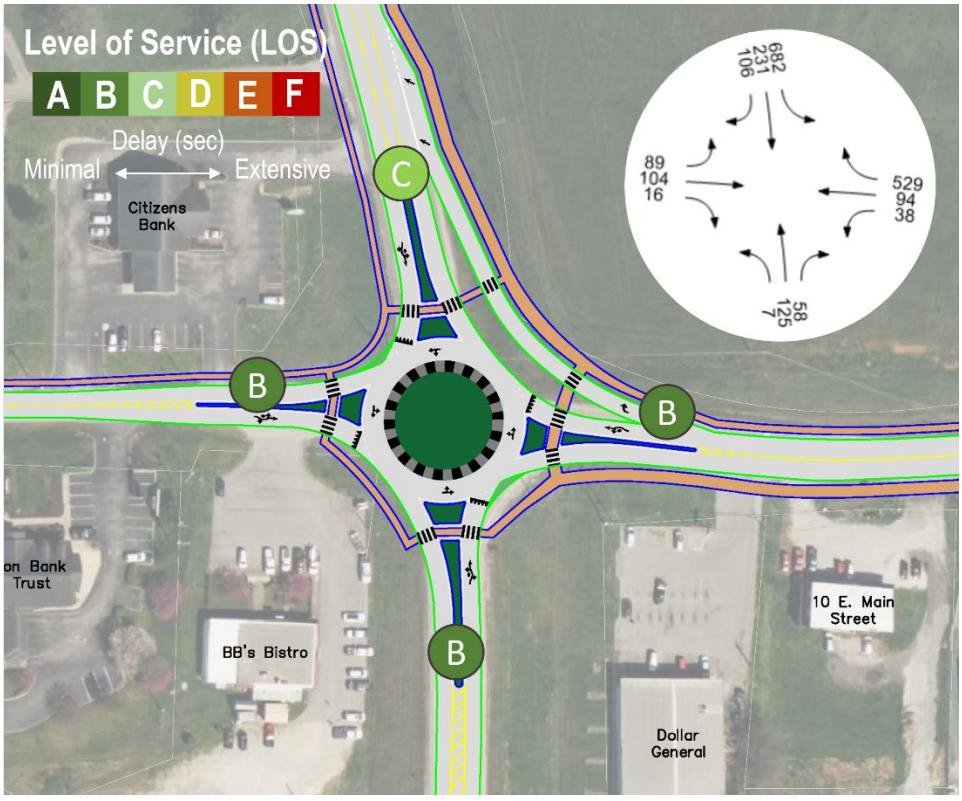


Figure 3-8. Future Build, PM Levels of Service and Turning Movement Counts (2052)



4.0 Recommendations

As established in the existing and future conditions of this report, the intersection of East Main Street and Gordonsville Highway is forecasted to experience continued pressure from commercial and residential growth in the Gordonsville area. Without careful planning and targeted capital investments to support this growth, future traffic and safety conditions will likely worsen. Additionally, because of the lack of nonmotorized facilities, significant barriers currently exist for people walking and cycling in the study area.

The recommendations included in this section build upon the findings included in TDOT's *2017 Community Transportation Planning Grant SR53/141 Corridor Study* and will help address existing and future safety and operational concerns within the study area for all roadway users. The vehicular recommendations seek to address both safety and operational concerns for people driving in the area, while the walkway and bikeway recommendations resolve network gaps and safety issues for people using active modes. In addition to these suggestions for capital improvements, the policy and access management recommendations suggest opportunities for investment in the broader transportation system in Gordonsville.

The following sections describe the recommended improvements for the intersection of East Main Street and Gordonsville Highway and the Town of Gordonsville more broadly. The implementation timeframes shown in each table are loosely correlated with the cost and effort required for implementation, as well as input from the steering committee, as described below.

- **Near-term:** recommendations (0 to 3 years) could be constructed or implemented immediately and require minimal design and construction.
- **Mid-term:** recommendations (3 to 6 years) requiring additional traffic data collection and analysis, as well as more survey, design, and subsurface excavation during construction.
- **Long-term:** Long-term recommendations (6 years and longer) would require substantial right-of-way acquisition, additional public and stakeholder engagement, and/or more significant financial investment.

Cost estimates were developed using TDOT's Planning Level Cost Estimating Tool, using 2021 Average Unit Prices with a 40% contingency applied for engineering and construction phases. Additional detailed information regarding each recommendation's cost estimate can be found in Appendix F.

Vehicular Recommendations

The vehicular recommendations for the intersection of East Main Street and Gordonsville Highway are included in Table 4-1. The recommended signage consolidation and striping updates (Project ID 1) should be considered for near-term implementation at the existing intersection, and the roundabout (Project ID 2), was modified from TDOT's 2017 Community Transportation Planning Grant SR53/141 Corridor Study to accommodate bicycle and pedestrian facilities.

As an additional long-term vision, the development of a new east-to-west collector roadway connection north of I-40 (Project ID 3) would provide an alternative detour route around downtown Gordonsville when crashes occur on I-40 and traffic is diverted off the interstate. Furthermore, it would provide generally improved east-to-west connectivity for area residents. The exact approach to implementation, alignment, and design of such a facility would require additional traffic and environmental analysis and significant public and stakeholder engagement before implementation could occur, but the Town can position itself for this future investment by ensuring that the necessary right-of-way is preserved as development occurs north of I-40.

The vehicular recommendations are shown in Figure 4-1, the concept diagram for the roundabout is shown in Figure 4-2, and more detailed planning level cost estimates, concept sheets, and a labeled concept diagram for the roundabout are included in Appendix E and Appendix F.

Table 4-1. Vehicular Recommendations

ID	Recommendation	Location	Type	Timeframe	Cost (2021 Dollars)
1	Signage consolidation, updated striping (stop bars, edge lines)	Intersection of East Main Street and Gordonsville Highway	Safety Improvement	Near-Term	$14,500
2	Roundabout with westbound to northbound slip lane	Intersection of East Main Street and Gordonsville Highway	Capital Improvement	Mid-Term	$2,570,000
3	New east to west roadway north of I-40	Alignment to be determined between Rogers Road and Trousdale Ferry Pike	Capital Improvement	Long-Term	$25,600,000

Note: Project ID 2 should be designed to accommodate bicycle and pedestrian travel (including features such as ADA accessible crossings, pedestrian scale lighting, etc.).

Figure 4-1. Vehicular Recommendations

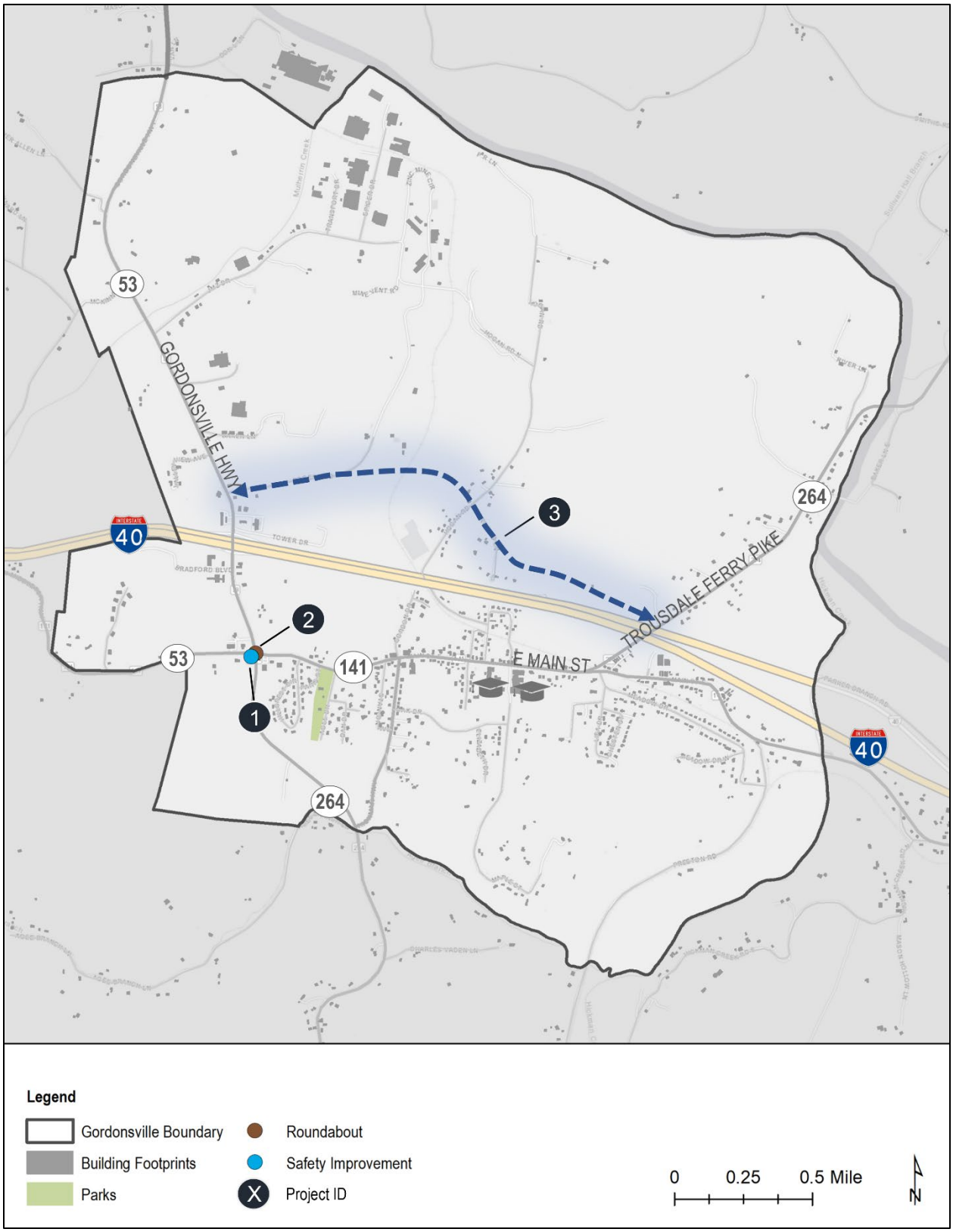
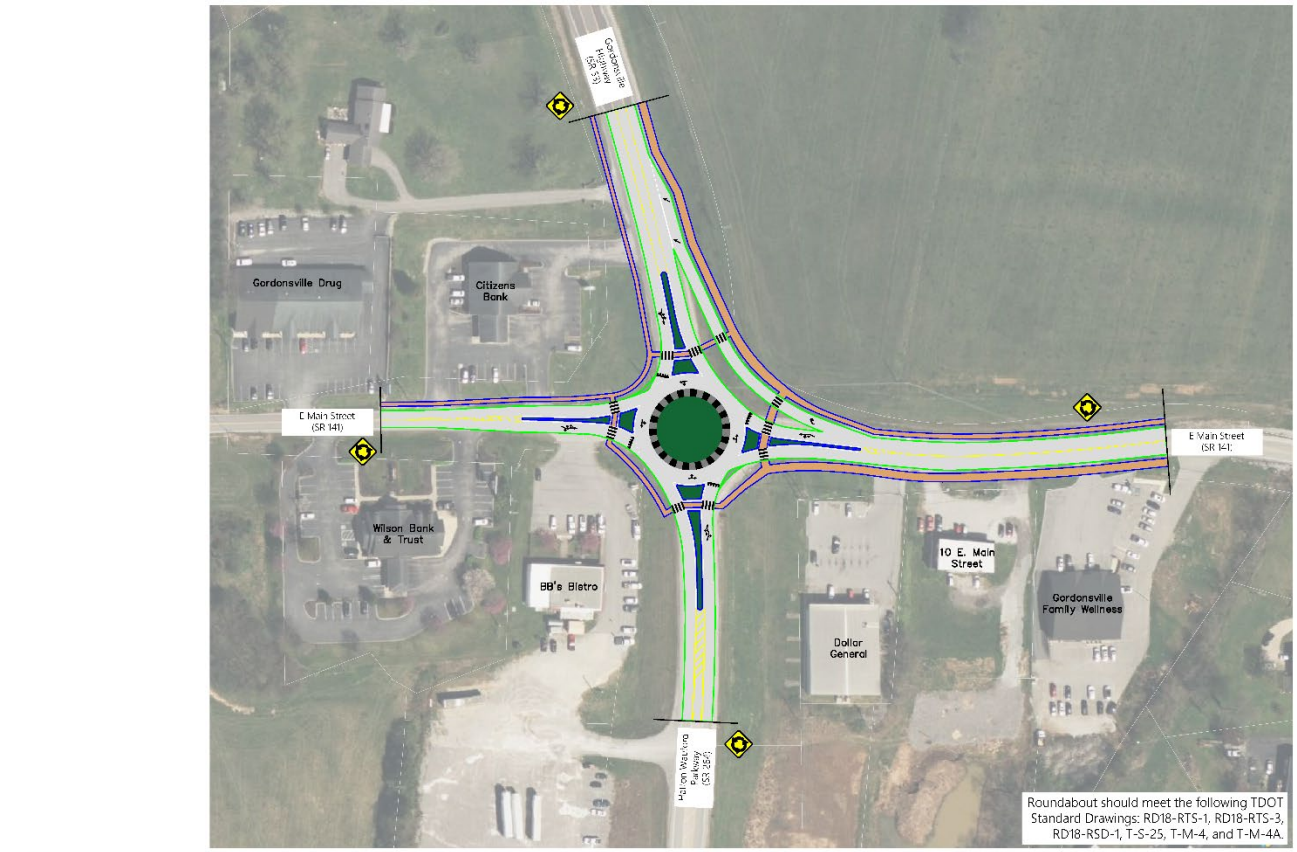


Figure 4-2. Roundabout Recommendation (Project ID 2) – Conceptual Layout



Bicycle and Pedestrian Recommendations

The following bicycle and pedestrian recommendations (Table 4-2) address the lack of walking and bicycling facilities at the intersection of East Main Street and Gordonsville Highway and walkway gaps throughout the broader Gordonsville community. The sidepath and sidewalk recommendations serve to build a network of interconnected routes between downtown Gordonsville and planned developments along Gordonsville Highway (Project IDs 4-8), and the greenway recommendation (Project ID 9) would provide a new active transportation connection between the Meadow Green Apartments and the commercial businesses along Gordonsville Highway. The need for additional sidewalk connectivity was specifically addressed in public comments as documented in Appendix A.

The bicycle and pedestrian recommendations are shown in Figure 4-3, and more detailed planning level cost estimates and concept sheets for these recommendations are included in Appendix E and Appendix F.

Table 4-2. Bicycle and Pedestrian Recommendations

ID	Facility	From	To	Width (Ft)	Type	Timeframe	Cost (2021 Dollars)
4	Sidepath on south side of East Main Street	Gordonsville Highway	Agee Drive	10’	Sidepath	Mid-Term	$339,680
5	Sidewalk on north side of East Main Street	Gordonsville Highway	Meadow Drive	Varies	Sidewalk	Mid-Term	$702,765
6	Sidewalk on north side of East Main Street	Gordonsville Highway	Meadow Green Lane	6’	Sidewalk	Mid-Term	$327,635
7	Sidepath on east side of Gordonsville Highway	East Main Street	Baker Lane	10’	Sidepath	Mid-Term	$996,890
8	Sidewalk on west side of Gordonsville Highway	East Main Street	Bradford Boulevard	6’	Sidewalk	Mid-Term	$182,160
9	Greenway between Meadow Green Apts/ Gordonsville Highway	Meadow Green Lane	Gordonsville Highway	10’	Greenway	Long-Term	$982,250

Note: Project ID 5 should be considered as properties develop near the SR 52/141 intersection. All sidewalk and sidepath recommendations should comply with the guidance and standards outlined in TDOT’s Multimodal Design Guidelines and the Multimodal Chapter of the Roadway Design Manual.

Figure 4-3. Bicycle and Pedestrian Recommendations

Policy and Access Management Recommendations

The following policy and access management recommendations (Table 4-3) will help ensure that the Town of Gordonsville maintains an effective and efficient transportation system as it experiences continued growth resulting from ongoing commercial and residential development. For example, the recommendation for driveway consolidation and cross-access easements (Project ID 10) would help balance the need for access to commercial areas north of the East Main Street and Gordonsville Highway intersection while better managing the flow and safety of traffic turning onto, off, and traveling along Gordonsville Highway. Furthermore, as Gordonsville continues to grow and permit additional commercial, residential, and industrial developments, requiring developers to set aside ROW, connect parcels to adjacent properties, or construct portions of new roadway connections, such as frontage or backage roads, will ensure that a gridded roadway system develops to accommodate increased traffic and not overload the existing collector roads that provide critical access throughout the Town (Project ID 11).

Concept sheets for these recommendations are included in Appendix F.

Table 4-3. Policy and Access Management Recommendations

ID	Recommendation	Location	Type	Timeframe
10	Driveway consolidation / Cross-access easements	Along Gordonsville Highway between the I-40 ramps and the SR 53/SR 141 intersection	Access Management & Policy Adoption	Near-Term
11	Develop interconnected, grid roadway system as parcels continue to develop	Various Locations	Access Management & Policy Adoption	Long-Term

Note: Project ID 10 – all driveways should comply with TDOT design manual requirements.

Funding Sources

Various funding opportunities are available to the Town of Gordonsville to support the planning, construction, maintenance, and operation of the multimodal transportation recommendations included in this report. Table 4-4 summarizes the funding opportunities that could be utilized by the Town for future transportation investments ranging from new roadways, existing infrastructure modifications, walkway and bikeway expansion, greenway construction, and other future activities. In addition to the grant opportunities listed in the table, some projects could be addressed through the Town's capital improvement budget or through TDOT's roadway resurfacing projects.

Because of eligibility requirements, some of these funding sources may require partnerships with TDOT, Smith County, and/or the Dale Hollow Regional Planning Organization to assist with applications or grant administration. In addition, some improvements could be constructed in partnership with developers, as parcels continue to develop.

Table 4-4. Funding Sources for Implementation

Grant/Program	Administering Agency	Program Focus	Eligibility	Funding Details
Local Parks and Recreation Fund (LPRF)	Tennessee Department of Environment and Conservation	Funding for the purchase of land for parks, greenways, recreational facilities, natural areas, and trail development	City or county governments	50% match required
Multimodal Access Grant (MMAG)	TDOT Multimodal Transportation Resources Division	Pedestrian, bicycle, and transit infrastructure projects on state routes, including road diets, active transportation facilities, and pedestrian-scale lighting	Projects within at-risk or distressed counties are prioritized	5% local match required; state match not to exceed $950,000
Project Diabetes	Tennessee Department of Health	Design and construction of facilities that support healthy communities, such as greenways, fitness equipment, playgrounds, sports facilities, and walking trails; also supports educational and community health programs	All government agencies	Category A grants are funded up to $150,000 per year for up to 3 years. Category B grants are funded up to $15,000 per year for up to 2 years.
Recreation Trails Program (RTP)	Tennessee Department of Environment and Conservation	Funding for hard and soft-surface trails, maintenance, restoration, construction, and trailside facilities, including land acquisition	Government agencies and some non-profits; projects must be on publicly owned land	20% match required (maximum of $200,000)
Safe Streets and Roads for All	United States Department of Transportation	Development of comprehensive safety action plans, including planning, design, and construction/implementation of projects or strategies identified in safety action plans	Cities, counties, and MPOs	20% match required

Table 4 4. Funding Sources for Implementation, continued

Grant/Program	Administering Agency	Program Focus	Eligibility	Funding Details
Surface Transportation Block Grant (STBG)	FHWA	Construction and maintenance of highways, bridges, tunnels, pedestrian and bicycle infrastructure, transit capital projects, and more	For cities/towns with populations of 5,000 or less, must consult and partner with TDOT	20% match typically required - in some cases, TDOT will provide match funding by request. For some safety-related projects, 100% federal funding is available
Transportation Alternatives Program (TAP)	TDOT Local Programs Development Office	Construction of on- and off-road bicycle and pedestrian facilities, pedestrian bridges/underpasses, bicycle and pedestrian amenities, rail-to-trail projects, scenic overlooks, and safe routes to school projects	All government agencies	20% local construction match required, plus all preliminary engineering, design, and right-of-way expenses
Transportation Planning Grant (TPG)	TDOT Long Range Planning Division Office of Community Transportation	Development of a variety of planning topics, including active transportation plans, safety plans, corridor studies (including road diet evaluations), transportation resilience and/or sustainability plans, among others	Cities and counties	10% local match required; state match not to exceed $200,000

5.0 Conclusion

The infrastructure and policy recommendations included in this plan seek to address the safety and operational concerns present at the existing intersection of East Main Street and Gordonsville Highway, as well as the lack of safe and connected walkways and bikeways in the broader Gordonsville area. By investing in the transportation system at the priority intersection and throughout the Town, Gordonsville will be able to create a safe, functional multimodal network that meets the needs of all roadway users now and into the future, whether they walk, bicycle, or drive in the area.

Appendix A – Public and Stakeholder Engagement

Summary of Public and Stakeholder Engagement

The public and stakeholder engagement strategy for this Community Mobility Plan included outreach to the public as well as technical coordination meetings with Town of Gordonsville staff. Feedback from the public informed the development of the vision statement, plan goals, opportunities and challenges, and project recommendations.

Steering Committee Meetings

A steering committee was developed to provide feedback during each stage of the planning process, and committee members provided guidance and direction on a variety of topics, including key problem areas, recommendation concepts, the public engagement strategy, advertising, and technical analyses. The steering committee was comprised of members of the Town of Gordonsville staff, including a representative from the Town Council, the fire department, the police department, the finance department, and the Upper Cumberland Development District's Regional Planning Organization. The steering committee met three times during the planning process.

Virtual Public Engagement

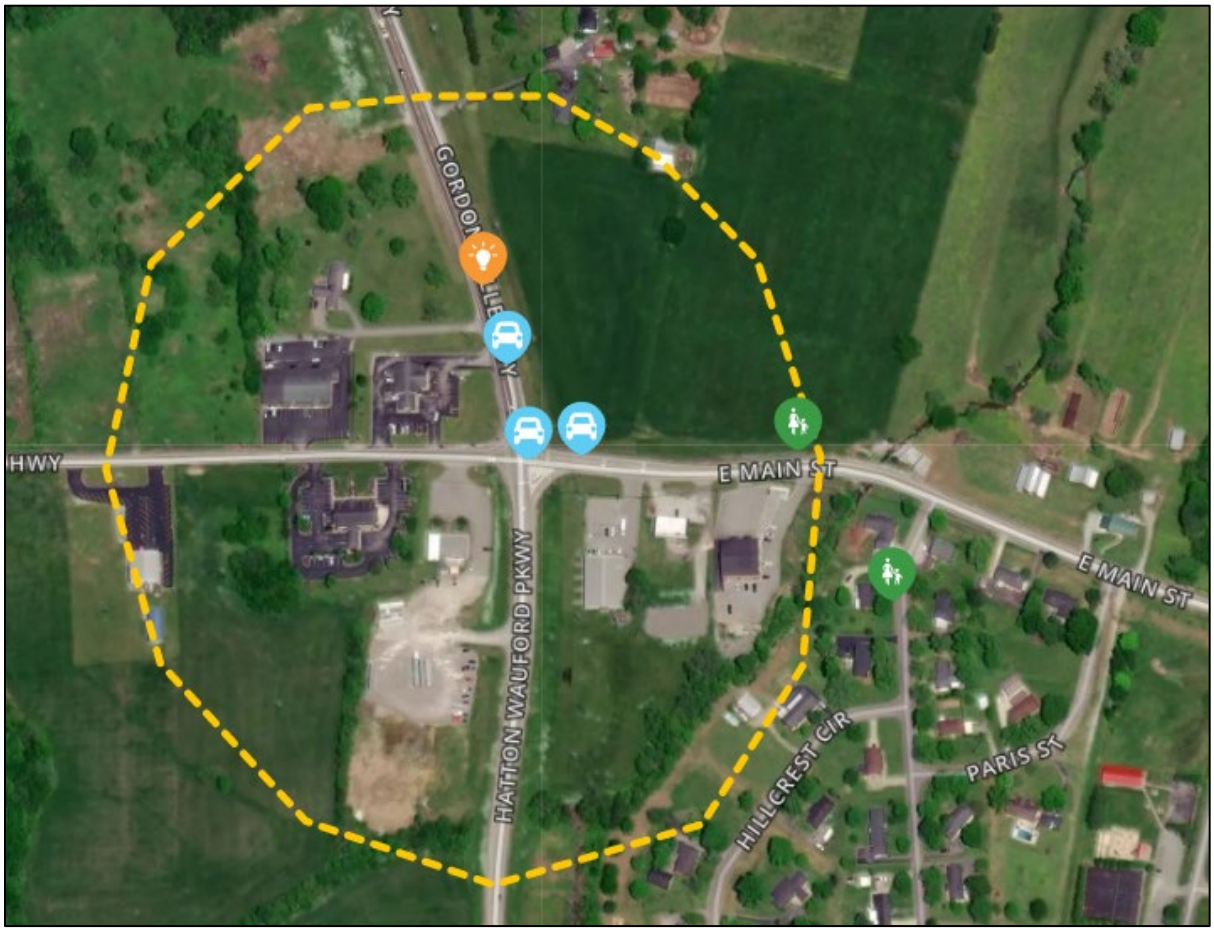
A study webpage was developed to gather feedback from the public throughout the planning process and included background information, schedule, contact information, and an interactive map. The interactive mapping feature allowed participants to provide feedback on their priorities for the transportation system, identify preferred improvements for the study area, as well as provide general comments about opportunities and challenges in Gordonsville more broadly. The study webpage was visited by approximately 150 unique users and the comments collected from the interactive map are included in Table A-1. Figure A-1 displays the comments received on the interactive map.

Table A-1. Interactive Map Comments

Marker Type	Comment	Upvote	Downvote
Walking	The sidewalk that runs along Main Street should be extended and widened to be a standard width. It would be nice to walk safely from where the sidewalk ends to the Pilot station.	6	0
Walking	Sidewalks along 141 and 53 to the interstate	3	0
Traffic	Roundabouts slow traffic down but keep it moving. The bigger issue is at the bottom of the hill with the entering and exiting coming from Pilot. If the trucks had a better area to enter and exit from the rear of the truck stop, it would help with the flow on the main road.	3	1
Traffic	Most people coming from Gordonsville town center to the 4-way are turning right. To ease congestion at the four-way stop, a branch could be added to the road that only required yielding. Bonus: if this actually became a second lane going toward the interstate it could end as a turn lane to I40 East which would relieve congestion at Bradford Drive and no yield would be needed at 4-way.	3	0
General Feedback	The congestion, if any, is typically during school drop off and pickup times. This is mostly caused by the amount of traffic coming off the interstate and trying to merge onto the roadway to get to a gas station. The bridge blocks huge amounts of visibility during all hours of the day. There should be a "truck lane" for trucks over a certain length coming off the interstate to make it into the Pilot. Trucks leaving the station should be required to egress out the further entrance/exit for egress	1	0
Walking	We don't have enough walking traffic to do this	0	0
Traffic	Gordonsville Highway needs to be 5 lanes (2 driving lanes per direction + a turning lane) from the 4 way stop to JMZ Drive. Coming West on E	0	0

Marker Type	Comment	Upvote	Downvote
	Main Street and turning right onto Gordonsville Hwy, it would be helpful to have dedicated turn lane that yields.		
Walking	Definitely need sidewalks extended to Dollar Store area and to banks. To Pilot / restaurants would be a plus, but not needed for now	0	0
Traffic	Putting the Pilot in that area was poorly thought out to begin with. The entrance/exit for both truckers and locals, with all the traffic in the area is a nightmare now. Rerouting local over hills won't help, just creates nightmare traffic for neighbors living there. Dangerous for the children living in that area too. Roundabouts will not help, when traffic is deadlocked at Pilot entrance and exit.	0	0
Traffic	Agreed, but that means tearing out the interstate bridge and building another. The city might be called on to pay part of the cost. Want your taxes increased MORE to cover it? Think about that one.....	0	0
General Feedback	Parents driving their kids to/from school is a lot of the traffic problem. Require them to ride buses and it may stop a lot of that. My kids rode the bus, I did too. Neither of us died from having to ride the bus. Also, parents are driving their kids from Carthage to Gordonsville school and vice versa. Stop that, requiring parents to send their kids to their local/zoned school except for spec. ed. needs. That will definitely solve some, if not a lot, of the problem.	0	0

Figure A-0-1. Social Pinpoint Mapping Comments



Key Findings

Input from the stakeholder meetings and interactive map helped inform the vision statement, goals, and objectives that provided the framework to develop project recommendations. Key findings from the public and stakeholder engagement included:

- Support for bicycle and pedestrian facilities along Gordonsville Highway and East Main Street;
- Understanding that existing congestion is largely a result of school traffic, freight vehicles, and detours from I-40;
- Interest in developing a greenway as an active transportation facility and for recreation; and,
- Desire for geometric changes along Gordonsville Highway and East Main Street to improve traffic operations.

Appendix B – Capacity Analyses Worksheets

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\Existing AM.pdf

Scenario 1 Existing AM
1/18/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	SB Left	0.452	12.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	29	1	57	12	7	14	22	2	0	19	75
Total Analysis Volume [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	511	553	533	602	557	587	663
Degree of Utilization, x	0.04	0.22	0.43	0.13	0.27	0.13	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.12	0.81	2.11	0.43	1.07	0.45	2.35
95th-Percentile Queue Length [ft]	2.89	20.28	52.67	10.75	26.83	11.24	58.83
Approach Delay [s/veh]	10.86		13.15		11.81	11.96	
Approach LOS	B		B		B	B	
Intersection Delay [s/veh]	12.15						
Intersection LOS	B						

Gordonsville TPG

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Report File: M:\...\Existing PM.pdf

Scenario 2 Existing PM
1/18/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	SB Left	0.490	11.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	13	5	71	28	13	11	13	2	3	12	52
Total Analysis Volume [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	534	597	579	656	567	578	664
Degree of Utilization, x	0.01	0.12	0.49	0.25	0.18	0.10	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.02	0.41	2.69	0.98	0.67	0.35	1.35
95th-Percentile Queue Length [ft]	0.57	10.22	67.27	24.43	16.64	8.64	33.70
Approach Delay [s/veh]	9.55		13.02		10.76	10.39	
Approach LOS	A		B		B	B	
Intersection Delay [s/veh]	11.67						
Intersection LOS	B						

Gordonsville TPG

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Report File: M:\...\3 - 2032 Background AM.pdf

Scenario 7 2032 Background AM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	SB Left	0.761	21.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	2	55	13	6	2	1	0	5	2	66
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	37	2	83	18	10	17	27	2	2	24	108
Total Analysis Volume [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	434	464	467	520	471	509	567
Degree of Utilization, x	0.05	0.33	0.71	0.21	0.39	0.20	0.76

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.17	1.43	5.54	0.80	1.85	0.73	6.82
95th-Percentile Queue Length [ft]	4.19	35.63	138.61	20.07	46.23	18.33	170.52
Approach Delay [s/veh]	13.88		23.24		15.53	23.63	
Approach LOS	B		C		C	C	
Intersection Delay [s/veh]	21.09						
Intersection LOS	C						

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\4 - 2032 Background PM.pdf

Scenario 8 2032 Background PM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	SB Left	0.824	20.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.824

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	6	79	8	4	5	2	0	3	1	69
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	19	8	106	36	17	14	17	3	5	15	81
Total Analysis Volume [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	457	502	516	576	485	505	571
Degree of Utilization, x	0.01	0.21	0.82	0.37	0.28	0.15	0.57

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.80	8.16	1.67	1.11	0.54	3.53
95th-Percentile Queue Length [ft]	0.83	19.96	204.04	41.81	27.87	13.55	88.20
Approach Delay [s/veh]	11.74		27.22		13.21	15.81	
Approach LOS	B		D		B	C	
Intersection Delay [s/veh]	20.83						
Intersection LOS	C						

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\5 - 2052 Background AM.pdf

Scenario 9 2052 Background AM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	WB Right	1.479	137.6	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	137.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.479

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	11	123	29	13	11	5	0	14	6	141
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	58	5	134	29	16	27	41	3	4	36	171
Total Analysis Volume [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	373	396	534	438	396	422	684
Degree of Utilization, x	0.09	0.63	1.33	0.41	0.72	0.38	1.48

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.30	4.22	24.66	1.95	5.56	1.74	35.01
95th-Percentile Queue Length [ft]	7.46	105.46	616.52	48.87	138.88	43.44	875.33
Approach Delay [s/veh]	24.74		146.42		32.42	203.94	
Approach LOS	C		F		D	F	
Intersection Delay [s/veh]	137.61						
Intersection LOS	F						

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\6 - 2052 Background PM.pdf

Scenario 10 2052 Background PM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	All-way stop	HCM 7th Edition	SB Left	1.561	123.1	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	All-way stop	Delay (sec / veh):	123.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.561

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	175.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	20	168	28	14	13	8	0	16	7	151
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	31	15	171	58	27	22	26	4	10	24	132
Total Analysis Volume [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	387	419	682	478	418	449	529
Degree of Utilization, x	0.02	0.44	1.56	0.70	0.50	0.29	1.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	2.17	37.47	5.47	2.72	1.21	15.97
95th-Percentile Queue Length [ft]	1.38	54.14	936.80	136.75	67.90	30.33	399.15
Approach Delay [s/veh]	17.57		199.21		19.91	68.80	
Approach LOS	C		F		C	F	
Intersection Delay [s/veh]	123.12						
Intersection LOS	F						

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\7 - 2032 Projected AM.pdf

Scenario 11 2032 Projected AM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	Roundabout	HCM 7th Edition	WB Right		6.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	2	55	13	6	2	1	0	5	2	66
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	37	2	83	18	10	17	27	2	2	24	108
Total Analysis Volume [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	518			126			416			242		
Exiting Flow Rate [veh/h]	87			218			162			456		
Demand Flow Rate [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432
Adjusted Demand Flow Rate [veh/h]	23	146	7	332	70	41	68	108	9	6	95	432

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	180	452	189	104	0
Capacity of Entry and Bypass Lanes [veh/h]	814	1213	903	1079	1105
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	798	1190	885	1058	1083
X, volume / capacity	0.22	0.37	0.21	0.10	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.84	1.75	0.79	0.32	1.94
95th-Percentile Queue Length [ft]	21.01	43.71	19.65	7.90	48.62
Approach Delay [s/veh]	6.89	6.68	6.19	6.89	
Approach LOS	A	A	A	A	
Intersection Delay [s/veh]	6.72				
Intersection LOS	A				

Gordonsville TPG

Vistro File: M:\...\Gordonsville - TPG Traffic Model.vistro
Report File: M:\...\8 - 2032 Projected PM.pdf

Scenario 12 2032 Projected PM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	Roundabout	HCM 7th Edition	SB Left		7.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	Roundabout	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200	1.2200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	6	79	8	4	5	2	0	3	1	69
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	19	8	106	36	17	14	17	3	5	15	81
Total Analysis Volume [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	559			85			600			139		
Exiting Flow Rate [veh/h]	177			134			134			534		
Demand Flow Rate [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324
Adjusted Demand Flow Rate [veh/h]	5	75	32	425	145	66	56	67	11	18	60	324

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	115	649	137	80	0
Capacity of Entry and Bypass Lanes [veh/h]	781	1266	749	1198	1205
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	766	1242	734	1175	1181
X, volume / capacity	0.15	0.51	0.18	0.07	0.27

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.51	3.03	0.66	0.21	1.12
95th-Percentile Queue Length [ft]	12.78	75.80	16.61	5.33	28.07
Approach Delay [s/veh]	6.24	8.47	6.91	5.19	
Approach LOS	A	A	A	A	
Intersection Delay [s/veh]	7.09				
Intersection LOS	A				

Gordonsville TPG

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Report File: M:\...\9 - 2052 Projected AM.pdf

Scenario 13 2052 Projected AM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	Roundabout	HCM 7th Edition	WB Right		13.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	Roundabout	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	19	115	4	227	47	29	54	88	7	1	76	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	11	123	29	13	11	5	0	14	6	141
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	58	5	134	29	16	27	41	3	4	36	171
Total Analysis Volume [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	823			198			677			384		
Exiting Flow Rate [veh/h]	146			349			248			730		
Demand Flow Rate [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684
Adjusted Demand Flow Rate [veh/h]	34	233	18	534	114	65	109	164	13	16	144	684

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	291	728	292	164	0
Capacity of Entry and Bypass Lanes [veh/h]	596	1128	692	934	967
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	585	1106	679	915	948
X, volume / capacity	0.49	0.64	0.42	0.17	0.72

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	A	C
95th-Percentile Queue Length [veh]	2.67	4.95	2.10	0.63	6.50
95th-Percentile Queue Length [ft]	66.66	123.71	52.47	15.79	162.42
Approach Delay [s/veh]	14.32	12.19	11.24	14.51	
Approach LOS	B	B	B	B	
Intersection Delay [s/veh]	13.27				
Intersection LOS	B				

Gordonsville TPG

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Report File: M:\...\10 - 2052 Projected PM.pdf

Scenario 14 2052 Projected PM
2/22/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gordonsville Hwy and E Main St	Roundabout	HCM 7th Edition	SB Left		17.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gordonsville Hwy and E Main St

Control Type:	Roundabout	Delay (sec / veh):	17.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			35.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Ha Wa			Gordonsville Hwy (SR53)			E Main St (SR 141)			E Main St (SR 53)		
Base Volume Input [veh/h]	4	51	21	284	112	51	42	53	9	12	48	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100	1.8100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	20	168	28	14	13	8	0	16	7	151
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	31	15	171	58	27	22	26	4	10	24	132
Total Analysis Volume [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	893			142			970			225		
Exiting Flow Rate [veh/h]	291			758			211			861		
Demand Flow Rate [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529
Adjusted Demand Flow Rate [veh/h]	7	125	58	682	231	106	89	104	16	38	94	529

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	194	1040	214	675
Capacity of Entry and Bypass Lanes [veh/h]	556	1195	514	1097
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	545	1171	504	1076
X, volume / capacity	0.35	0.87	0.42	0.61

Movement, Approach, & Intersection Results

Lane LOS	B	C	B	B
95th-Percentile Queue Length [veh]	1.55	12.24	2.02	4.41
95th-Percentile Queue Length [ft]	38.85	306.05	50.53	110.33
Approach Delay [s/veh]	11.86	23.59	14.23	11.61
Approach LOS	B	C	B	B
Intersection Delay [s/veh]	17.77			
Intersection LOS	C			

Appendix C – Development Assumptions

TOTAL TRIP GENERATION

ITE CODE	LAND USE	# UNITS	UNIT TYPE	ADT	AM			PM		
					Enter	Exit	Total	Enter	Exit	Total
220.1	Multifamily Housing (Low-Rise) - Not Close to Rail Transit	93	Dwelling Units	671	9	28	37	38	23	61
310	Hotel	100	Rooms	660	24	19	43	30	29	59
151	Mini-Warehouse	1	k.s.f.	1						
630	Clinic	15	Employees	283	17	4	21	12	18	30
932	High-Turnover (Sit-Down) Restaurant	6.5	k.s.f.	697	34	28	62	36	23	59
934	Fast-Food Restaurant with Drive-Through Window	3	k.s.f.	1402	68	66	134	51	48	99
934	Fast-Food Restaurant with Drive-Through Window	3	k.s.f.	1402	68	66	134	51	48	99
941	Quick Lubrication Vehicle Shop	2	service positions	80	4	2	6	6	4	10
943	Automobile Parts and Service Center	8.9	k.s.f.	142	12	5	17	7	11	18
881	Pharmacy/Drugstore with Drive-Through	13	k.s.f.	1409	25	24	49	66	67	133
912	Drive-in Bank	2	drive-in lanes	250	10	7	17	26	28	54
930	Fast Casual Restaurant	4	k.s.f.	389	3	3	6	28	22	50
850	Supermarket	33	Employees	2484	56	48	104	101	102	203
215	Single-Family Attached Housing	50	Dwelling Units	331	6	14	20	15	11	26
220.1	Multifamily Housing (Low-Rise) - Not Close to Rail Transit	60	Dwelling Units	460	6	18	24	29	17	46
221.1	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	350	Dwelling Units	1623	33	109	142	84	53	137
215	Single-Family Attached Housing	50	Dwelling Units	331	6	14	20	15	11	26
151	Mini-Warehouse	1	k.s.f.	1						
150	Warehousing	30	employees	167	15	6	21	7	13	20
842	Recreational Vehicle Sales	5	employees	39	6	1	7	1	4	5
937	Coffee/Donut Shop with Drive-Through Window	1.9	k.s.f.	1014	83	80	163	37	37	74
210	Single-Family Detached Housing	130	Dwelling Units	1285	25	70	95	80	47	127
			SUBTOTAL	**15121**	510	612	**1122**	720	616	**1336**
			Parcel 5 Total	**8349**	**258**	**253**	**511**	**380**	**358**	**738**
			Parcel 6a and 6b	*1954*	*39*	*123*	*162*	*99*	*64*	*163*
			Parcel 6 Total	**3175**	**143**	**210**	**353**	**144**	**118**	**262**
										39
			TOTAL NEW TRIPS	**17075**	549	735	**1284**	819	680	**1499**

TRIP GENERATION

Multifamily Housing (Low-Rise) - Not Close to Rail Transit

220.1 ITE Land Code

93 Dwelling Units

Average Daily Traffic:

T = 6.41 * (X) + 75.31

T = 6.41 * (93) + 75.31

T = 671

A.M. Peak Hour:

T = 0.40 * (X)

T = 0.40 * (93)

T = 37

Enter =	9	24%
Exit =	28	76%

P.M. Peak Hour:

T = 0.43 * (X) + 20.55

T = 0.43 * (93) + 20.55

T = 61

Enter =	38	63%
Exit =	23	37%

TRIP GENERATION

Hotel

310 ITE Land Code

100 Rooms

Average Daily Traffic:

T = 10.84 * (X) - 423.51

T = 10.84 * (100) - 423.51

T = 660

A.M. Peak Hour:

T = 0.50 * (X) - 7.45

T = 0.50 * (100) - 7.45

T = 43

Enter =	24	56%
Exit =	19	44%

P.M. Peak Hour:

T = 0.59 * (X)

T = 0.59 * (100)

T = 59

Enter =	30	51%
Exit =	29	49%

TRIP GENERATION

Mini-Warehouse

151 ITE Land Code

1 k.s.f.

Average Daily Traffic:

T = 1.45 * (X)

T = 1.45 * (1)

T = 1

A.M. Peak Hour:

T = 0.09 * (X)

T = 0.09 * (1)

T = 0

Enter =	0	59%
Exit =	0	41%

P.M. Peak Hour:

T = 0.15 * (X)

T = 0.15 * (1)

T = 0

Enter =	0	47%
Exit =	0	53%

TRIP GENERATION

Clinic

630 ITE Land Code

15 Employees

Average Daily Traffic:

T = 11.84 * (X) + 104.94

T = 11.84 * (15) + 104.94

T = 283

A.M. Peak Hour:

T = 1.14 * (X) + 4.14

T = 1.14 * (15) + 4.14

T = 21

Enter =	17	82%
Exit =	4	18%

P.M. Peak Hour:

T = 1.21 * (X) + 11.92

T = 1.21 * (15) + 11.92

T = 30

Enter =	12	39%
Exit =	18	61%

TRIP GENERATION

High-Turnover (Sit-Down) Restaurant

932 ITE Land Code

6.5 k.s.f.

Average Daily Traffic:

T = 107.20 * (X)

T = 107.20 * (6.5)

T = 697

A.M. Peak Hour:

T = 9.57 * (X)

T = 9.57 * (6.5)

T = 62

Enter =	34	55%
Exit =	28	45%

P.M. Peak Hour:

T = 9.05 * (X)

T = 9.05 * (6.5)

T = 59

Enter =	36	61%
Exit =	23	39%

TRIP GENERATION

Fast-Food Restaurant with Drive-Through Window

934 ITE Land Code

3 k.s.f.

Average Daily Traffic:

T = 467.48 * (X)

T = 467.48 * (3)

T = 1402

A.M. Peak Hour:

T = 44.61 * (X)

T = 44.61 * (3)

T = 134

Enter =	68	51%
Exit =	66	49%

P.M. Peak Hour:

T = 33.03 * (X)

T = 33.03 * (3)

T = 99

Enter =	51	52%
Exit =	48	48%

TRIP GENERATION

Fast-Food Restaurant with Drive-Through Window

934 ITE Land Code

3 k.s.f.

Average Daily Traffic:

T = 467.48 * (X)

T = 467.48 * (3)

T = 1402

A.M. Peak Hour:

T = 44.61 * (X)

T = 44.61 * (3)

T = 134

Enter =	68	51%
Exit =	66	49%

P.M. Peak Hour:

T = 33.03 * (X)

T = 33.03 * (3)

T = 99

Enter =	51	52%
Exit =	48	48%

TRIP GENERATION

Quick Lubrication Vehicle Shop

941 ITE Land Code

2 service positions

Average Daily Traffic:

T = 40.0 * (X)

T = 40.0 * (2)

T = 80

A.M. Peak Hour:

T = 3 * (X)

T = 3 * (2)

T = 6

Enter =	4	67%
Exit =	2	33%

P.M. Peak Hour:

T = 4.85 * (X)

T = 4.85 * (2)

T = 10

Enter =	6	56%
Exit =	4	44%

TRIP GENERATION

Automobile Parts and Service Center

943 ITE Land Code

8.9 k.s.f.

Average Daily Traffic:

T = 16 * (X)

T = 16 * (8.9)

T = 142

A.M. Peak Hour:

T = 1.91 * (X)

T = 1.91 * (8.9)

T = 17

Enter =	12	72%
Exit =	5	28%

P.M. Peak Hour:

T = 2.06 * (X)

T = 2.06 * (8.9)

T = 18

Enter =	7	39%
Exit =	11	61%

TRIP GENERATION

Pharmacy/Drugstore with Drive-Through

881 ITE Land Code

13 k.s.f.

Average Daily Traffic:

T = 108.40 * (X)

T = 108.40 * (13)

T = 1409

A.M. Peak Hour:

T = 3.74 * (X)

T = 3.74 * (13)

T = 49

Enter =	25	52%
Exit =	24	48%

P.M. Peak Hour:

T = 10.25 * (X)

T = 10.25 * (13)

T = 133

Enter =	66	50%
Exit =	67	50%

TRIP GENERATION

Drive-in Bank

912 ITE Land Code

2 drive-in lanes

Average Daily Traffic:

T = 125.03 * (X)

T = 125.03 * (2)

T = 250

A.M. Peak Hour:

T = 8.54 * (X)

T = 8.54 * (2)

T = 17

Enter =	10	61%
Exit =	7	39%

P.M. Peak Hour:

T = 27.07 * (X)

T = 27.07 * (2)

T = 54

Enter =	26	49%
Exit =	28	51%

TRIP GENERATION

Fast Casual Restaurant

930 ITE Land Code

4 k.s.f.

Average Daily Traffic:

T = 97.14 * (X)

T = 97.14 * (4)

T = 389

A.M. Peak Hour:

T = 1.43 * (X)

T = 1.43 * (4)

T = 6

Enter =	3	50%
Exit =	3	50%

P.M. Peak Hour:

T = 12.55 * (X)

T = 12.55 * (4)

T = 50

Enter =	28	55%
Exit =	22	45%

TRIP GENERATION

Supermarket

850 ITE Land Code

33 Employees

Average Daily Traffic:

Ln(T) = (0.64 * Ln(X) + 5.58)

Ln(T) = (0.64 * Ln(33) + 5.58)

T = 2484

A.M. Peak Hour:

Ln(T) = (0.24 * Ln(X) +3.81)

Ln(T) = (0.24 * Ln(33) +3.81)

T = 104

Enter =	56	54%
Exit =	48	46%

P.M. Peak Hour:

Ln(T) = (0.61 * Ln(X) + 3.18)

Ln(T) = (0.61 * Ln(33) + 3.18)

T = 203

Enter =	101	50%
Exit =	102	50%

TRIP GENERATION

Single-Family Attached Housing

215 ITE Land Code

50 Dwelling Units

Average Daily Traffic:

T = 7.62 * (X) - 50.48

T = 7.62 * (50) - 50.48

T = 331

A.M. Peak Hour:

T = 0.52 * (X) - 5.70

T = 0.52 * (50) - 5.70

T = 20

Enter =	6	31%
Exit =	14	69%

P.M. Peak Hour:

T = 0.60 * (X) - 3.93

T = 0.60 * (50) - 3.93

T = 26

Enter =	15	57%
Exit =	11	43%

TRIP GENERATION

Multifamily Housing (Low-Rise) - Not Close to Rail Transit

220.1 ITE Land Code

60 Dwelling Units

Average Daily Traffic:

T = 6.41 * (X) + 75.31

T = 6.41 * (60) + 75.31

T = 460

A.M. Peak Hour:

T = 0.40 * (X)

T = 0.40 * (60)

T = 24

Enter =	6	24%
Exit =	18	76%

P.M. Peak Hour:

T = 0.43 * (X) + 20.55

T = 0.43 * (60) + 20.55

T = 46

Enter =	29	63%
Exit =	17	37%

TRIP GENERATION

Multifamily Housing (Mid-Rise) - Not Close to Rail Transit

221.1 ITE Land Code

350 Dwelling Units

Average Daily Traffic:

T = 4.77 * (X) - 46.46

T = 4.77 * (350) - 46.46

T = 1623

A.M. Peak Hour:

T = 0.44 * (X) - 11.61

T = 0.44 * (350) - 11.61

T = 142

Enter =	33	23%
Exit =	109	77%

P.M. Peak Hour:

T = 0.39 * (X) + 0.34

T = 0.39 * (350) + 0.34

T = 137

Enter =	84	61%
Exit =	53	39%

TRIP GENERATION

Single-Family Attached Housing

215 ITE Land Code

50 Dwelling Units

Average Daily Traffic:

T = 7.62 * (X) - 50.48

T = 7.62 * (50) - 50.48

T = 331

A.M. Peak Hour:

T = 0.52 * (X) - 5.70

T = 0.52 * (50) - 5.70

T = 20

Enter =	6	31%
Exit =	14	69%

P.M. Peak Hour:

T = 0.60 * (X) - 3.93

T = 0.60 * (50) - 3.93

T = 26

Enter =	15	57%
Exit =	11	43%

TRIP GENERATION

Mini-Warehouse

151 ITE Land Code

1 k.s.f.

Average Daily Traffic:

T = 1.45 * (X)

T = 1.45 * (1)

T = 1

A.M. Peak Hour:

T = 0.09 * (X)

T = 0.09 * (1)

T = 0

Enter =	0	59%
Exit =	0	41%

P.M. Peak Hour:

T = 0.15 * (X)

T = 0.15 * (1)

T = 0

Enter =	0	47%
Exit =	0	53%

TRIP GENERATION

Warehousing

150 ITE Land Code

30 employees

Average Daily Traffic:

Ln(T) = (0.82 * Ln(X) + 2.33)

Ln(T) = (0.82 * Ln(30) + 2.33)

T = 167

A.M. Peak Hour:

T = 0.52 * (X) + 4.93

T = 0.52 * (30) + 4.93

T = 21

Enter =	15	72%
Exit =	6	28%

P.M. Peak Hour:

T = 0.66 * (X)

T = 0.66 * (30)

T = 20

Enter =	7	36%
Exit =	13	64%

TRIP GENERATION

Recreational Vehicle Sales

842 ITE Land Code

5 employees

Average Daily Traffic:

T = 7.88 * (X)

T = 7.88 * (5)

T = 39

A.M. Peak Hour:

Ln(T) = (0.46 * Ln(X) + 1.26)

Ln(T) = (0.46 * Ln(5) + 1.26)

T = 7

Enter =	6	85%
Exit =	1	15%

P.M. Peak Hour:

T = 0.91 * (X)

T = 0.91 * (5)

T = 5

Enter =	1	29%
Exit =	4	71%

TRIP GENERATION

Coffee/Donut Shop with Drive-Through Window

937 ITE Land Code

1.9 k.s.f.

Average Daily Traffic:

T = 533.57 * (X)

T = 533.57 * (1.9)

T = 1014

A.M. Peak Hour:

T = 85.88 * (X)

T = 85.88 * (1.9)

T = 163

Enter =	83	51%
Exit =	80	49%

P.M. Peak Hour:

T = 38.99 * (X)

T = 38.99 * (1.9)

T = 74

Enter =	37	50%
Exit =	37	50%

TRIP GENERATION

Single-Family Detached Housing

210 ITE Land Code

130 Dwelling Units

Average Daily Traffic:

Ln(T) = (0.92 * Ln(X) + 2.68)

Ln(T) = (0.92 * Ln(130) + 2.68)

T = 1285

A.M. Peak Hour:

Ln(T) = (0.91 * Ln(X) + 0.12)

Ln(T) = (0.91 * Ln(130) + 0.12)

T = 95

Enter =	25	26%
Exit =	70	74%

P.M. Peak Hour:

Ln(T) = (0.94 * Ln(X) + 0.27)

Ln(T) = (0.94 * Ln(130) + 0.27)

T = 127

Enter =	80	63%
Exit =	47	37%

Appendix D – TDOT Count Station Data

TDOT AADT DATA

Station	51	93	50
Route	E Main St	E Main St	SR 264
Location	West of Gordonsville	East of SR 264	South of Gordonsville
County	Smith	Smith	Smith
2019	1,031	5,869	1,921
2018	841	5,484	1,880
2017	927	5,752	1,876
2016	992	4,427	1,846
2015	994	4,725	1,836
2014	968	4,458	1,710
2013	1,058	4,524	1,776
2012	1,059	4,915	1,920
2011	1,193	5,310	2,033
2010	1,368	5,032	2,044
2009	1,353	5,184	2,097
2008	1,456	5,496	2,028
2007	1,357	5,599	2,150

TDOT AADT Background Growth Trend Analysis

Year	West of Gordonsville		East of SR 264		South of Gordonsville		TOTAL	
	51	% Difference	93	% Difference	50	% Difference		% Difference
2019	1,031	22.6%	5,869	7.0%	1,921	2.2%	8,821	7.5%
2018	841	-9.3%	5,484	-4.7%	1,880	0.2%	8,205	-4.1%
2017	927	-6.6%	5,752	29.9%	1,876	1.6%	8,555	17.8%
2016	992	-0.2%	4,427	-6.3%	1,846	0.5%	7,265	-3.8%
2015	994	2.7%	4,725	6.0%	1,836	7.4%	7,555	5.9%
2014	968	-8.5%	4,458	-1.5%	1,710	-3.7%	7,136	-3.0%
2013	1,058	-0.1%	4,524	-8.0%	1,776	-7.5%	7,358	-6.8%
2012	1,059	-11.2%	4,915	-7.4%	1,920	-5.6%	7,894	-7.5%
2011	1,193	-12.8%	5,310	5.5%	2,033	-0.5%	8,536	1.1%
2010	1,368	1.1%	5,032	-2.9%	2,044	-2.5%	8,444	-2.2%
2009	1,353	-7.1%	5,184	-5.7%	2,097	3.4%	8,634	-3.9%
2008	1,456	7.3%	5,496	-1.8%	2,028	-5.7%	8,980	-1.4%
2007	1,357	--	5,599	--	2,150	--	9,106	--

Exponential Rate

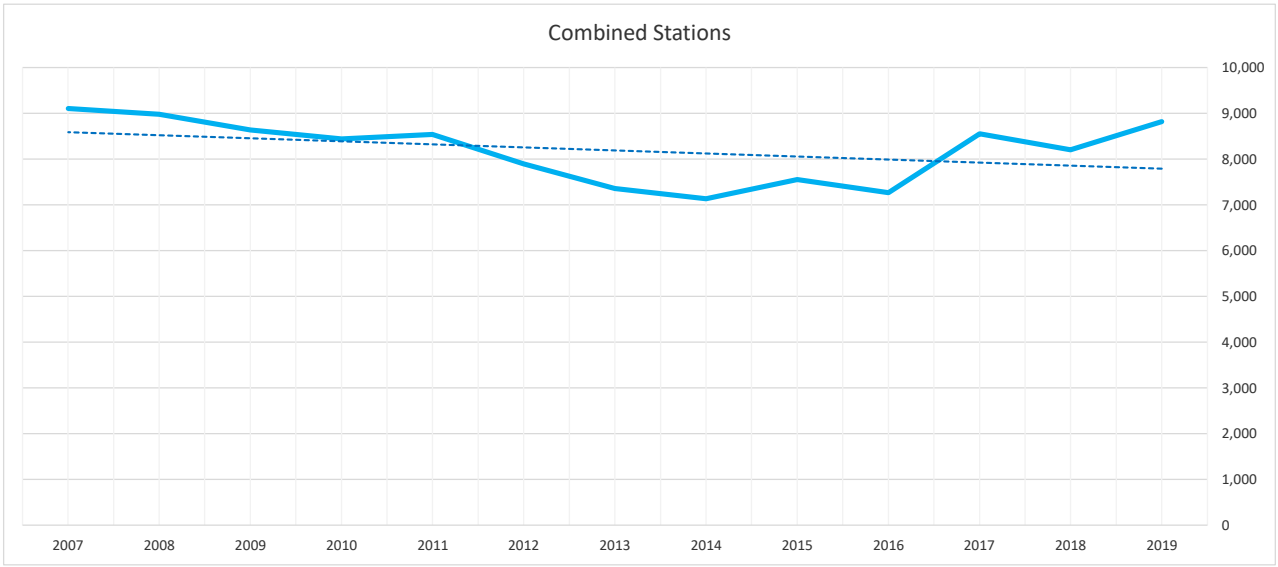
Since 2018 Annual	22.59%	7.02%	2.18%	7.51%
Since 2017 Annual	5.46%	1.01%	1.19%	1.54%
Since 2016 Annual	1.29%	9.85%	1.34%	6.68%
Since 2015 Annual	0.92%	5.57%	1.14%	3.95%
Since 2014 Annual	1.27%	5.65%	2.35%	4.33%
Since 2013 Annual	-0.43%	4.43%	1.32%	3.07%
Since 2012 Annual	-0.38%	2.57%	0.01%	1.60%
Since 2011 Annual	-1.81%	1.26%	-0.71%	0.41%
Since 2010 Annual	-3.09%	1.72%	-0.69%	0.49%
Since 2009 Annual	-2.68%	1.25%	-0.87%	0.21%

Average of Differences

NO. Years	Average
1	7.5%
2	1.7%
3	7.1%
4	4.3%
5	4.6%
6	3.4%
7	1.9%
8	0.7%
9	0.8%
10	0.5%

Avergae of Exponential Rates

NO. Years	Average
1	7.5%
2	3.4%
3	4.3%
4	4.1%
5	4.1%
6	3.9%
7	3.5%
8	3.1%
9	2.84%
10	2.6%



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Appendix E – Planning Level Cost Estimates

COST ESTIMATE SUMMARY

Route:	SR 53/SR 141
Termini:	
Scope of Work:	Signage and Striping Updates (Project ID 1)
Project Type of Work:	Safety
County:	Smith
Length:	0.10 Miles
Date:	March 15, 2023
Estimate Type:	Concept

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$0
Asphalt Paving		$0	$0	$0	$0
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$0
Appurtenances		$0	$0	$0	$0
Structures		$0	$0	$0	$0
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$0
Clearing and Grubbing		$0	$0	$0	$0
Seeding & Sodding		$0	$0	$0	$0
Rip-Rap or Slope Protection		$0	$0	$0	$0
Guardrail		$0	$0	$0	$0
Signing		$0	$0	$0	$300
Pavement Markings		$0	$0	$0	$7,300
Maintenance of Traffic		$0	$0	$0	$400
Mobilization	5%	$0	$0	$0	$400
Other Items and Annual Inflation	10%	$0	$0	$0	$840
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$2,770
Const. Eng. & Inspec.	10%	$0	$0	$0	$1,200
Construction Estimate		$0	$0	$0	$13,200
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0
Right-of-Way & Utilties		**LOCAL**	**STATE**	**FEDERAL**	**TOTAL**
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$0
Preliminary Engineering		**LOCAL**	**STATE**	**FEDERAL**	**TOTAL**
		0%	0%	0%	
Prelim. Eng.	10.0%	$0	$0	$0	$1,320
Total Project Cost (2021)		$ -	$ -	$ -	$ 14,500

COST ESTIMATE SUMMARY

Route:	SR53/SR141
Termini:	
Scope of Work:	Roundabout at SR 53/SR 141 (Project ID 2)
Project Type of Work:	Roundabout
County:	Smith
Length:	0.20 Miles
Date:	March 15, 2023
Estimate Type:	Concept

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$113,000
Asphalt Paving		$0	$0	$0	$355,000
Concrete Pavement		$0	$0	$0	$213,000
Drainage		$0	$0	$0	$159,000
Appurtenances		$0	$0	$0	$135,000
Structures		$0	$0	$0	$51,000
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$214,000
Clearing and Grubbing		$0	$0	$0	$0
Seeding & Sodding		$0	$0	$0	$2,300
Rip-Rap or Slope Protection		$0	$0	$0	$0
Guardrail		$0	$0	$0	$5,900
Signing		$0	$0	$0	$19,500
Pavement Markings		$0	$0	$0	$20,700
Maintenance of Traffic		$0	$0	$0	$71,700
Mobilization	5%	$0	$0	$0	$68,000
Other Items and Annual Inflation	10%	$0	$0	$0	$143,000
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$456,000
Const. Eng. & Inspec.	10%	$0	$0	$0	$203,000
Construction Estimate		$0	$0	$0	$2,230,000
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0
Right-of-Way & Utilties		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$113,000
Preliminary Engineering		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Prelim. Eng.	10.0%	$0	$0	$0	$223,000
Total Project Cost (2021)		$ -	$ -	$ -	$ 2,570,000

COST ESTIMATE SUMMARY

Route:	Between Baker Lane and Trousdale Ferry Pike
Termini:	
Scope of Work:	New 2-Lane Collector Roadway (Project ID 3)
Project Type of Work:	Construction-New
County:	Smith
Length:	1.75 Miles
Date:	March 15, 2023
Estimate Type:	Concept

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$0
Asphalt Paving		$0	$0	$0	$3,500,000
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$1,390,000
Appurtenances		$0	$0	$0	$907,000
Structures		$0	$0	$0	$0
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$300,000
Earthwork		$0	$0	$0	$2,090,000
Clearing and Grubbing		$0	$0	$0	$0
Seeding & Sodding		$0	$0	$0	$19,900
Rip-Rap or Slope Protection		$0	$0	$0	$0
Guardrail		$0	$0	$0	$0
Signing		$0	$0	$0	$8,200
Pavement Markings		$0	$0	$0	$19,700
Maintenance of Traffic		$0	$0	$0	$138,000
Mobilization	5%	$0	$0	$0	$419,000
Other Items and Annual Inflation	10%	$0	$0	$0	$879,000
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$2,900,000
Const. Eng. & Inspec.	20%	$0	$0	$0	$2,510,000
Construction Estimate		$0	$0	$0	$15,100,000
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0
Right-of-Way & Utilties		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$1,000,000
Utilities		$0	$0	$0	$8,240,000
Preliminary Engineering		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Prelim. Eng.	8.3%	$0	$0	$0	$1,250,000
Total Project Cost (2021)		$ -	$ -	$ -	$ 25,600,000

Bicycle and Pedestrian Planning Level Cost Estimates

The following cost assumptions were applied to develop planning level cost estimates for the bicycle and pedestrian recommendations:

ID	Facility	From	To	Width (ft)	Type	Timeframe	Linear Feet	Cost per foot	Cost (2021 Dollars)
4	East Main Street	Gordonsville Highway	Agee Drive	10’	Sidepath	Mid-term	1,503	$226	$339,680
5	East Main Street	Gordonsville Highway	Meadow Drive	Varies	Sidewalk	Mid-term	6,111	$115	$702,765
6	East Main Street	Gordonsville Highway	Meadow Green Lane	6’	Sidewalk	Mid-term	2,849	$115	$327,635
7	Gordonsville Highway	East Main Street	Baker Lane	10’	Sidepath	Mid-term	4,411	$226	$996,890
8	Gordonsville Highway	East Main Street	Bradford Boulevard	6’	Sidewalk	Mid-term	1,584	$115	$182,160
9	New Greenway	Meadow Green Lane	Gordonsville Highway	10’	Greenway	Long-term	3,929	$250	$982,250

Note: All sidewalks assumed existing curb and gutter was utilized; all sidewalks and sidepaths are assumed to be constructed according to TDOT standard drawings. Each facility type assumed 12 total curb ramps and 6 crosswalks. A pedestrian bridge was assumed to be required for the greenway cost estimate.

Appendix F – Recommendation Concept Sheets

Project ID 1

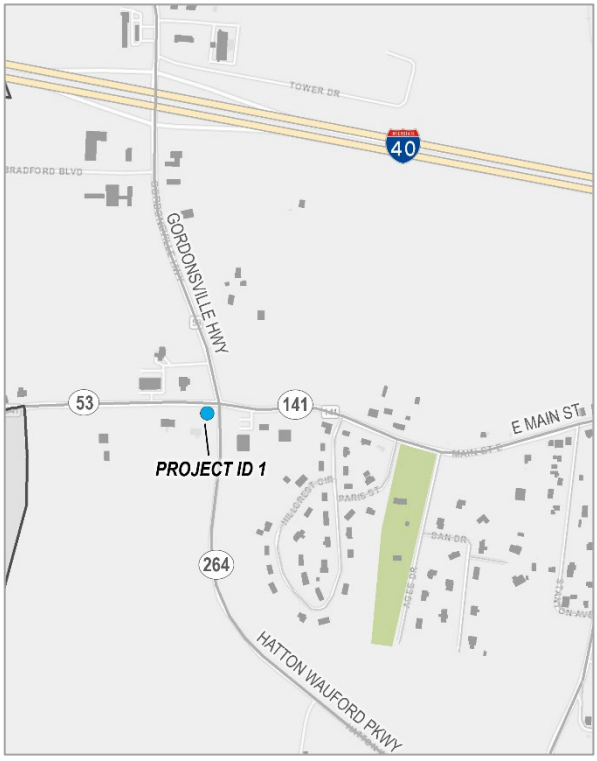
Signage and Striping Improvements

Description:

The existing intersection of East Main Street and Gordonsville Highway has faded edge lines and stop bar striping, and numerous signage visually complicates the intersection for drivers and pedestrians.

This project recommendation includes evaluating the need for repainting the stop bars, edge lines, and other striping, and consolidating and simplifying the signage where possible.

This project applies to the existing intersection and could be implemented in the near-term through a grant, the Town's maintenance budget, or in partnership with TDOT.



Project Type	Timeframe	Cost (2021 Dollars)
Safety Improvement	Near-term	$14,500

Existing Conditions:

Project ID 2

Roundabout at East Main Street and Gordonsville Highway

Description:

The existing intersection of East Main Street and Gordonsville Highway is a four-way stop. A roundabout at this location would address existing and future operational challenges and make the intersection safer for all users, whether they walk, bicycle, or drive through the area. The addition of a westbound slip lane ensures the roundabout can handle heavy directional vehicular traffic, and a sidepath and sidewalk are provided for active modes.

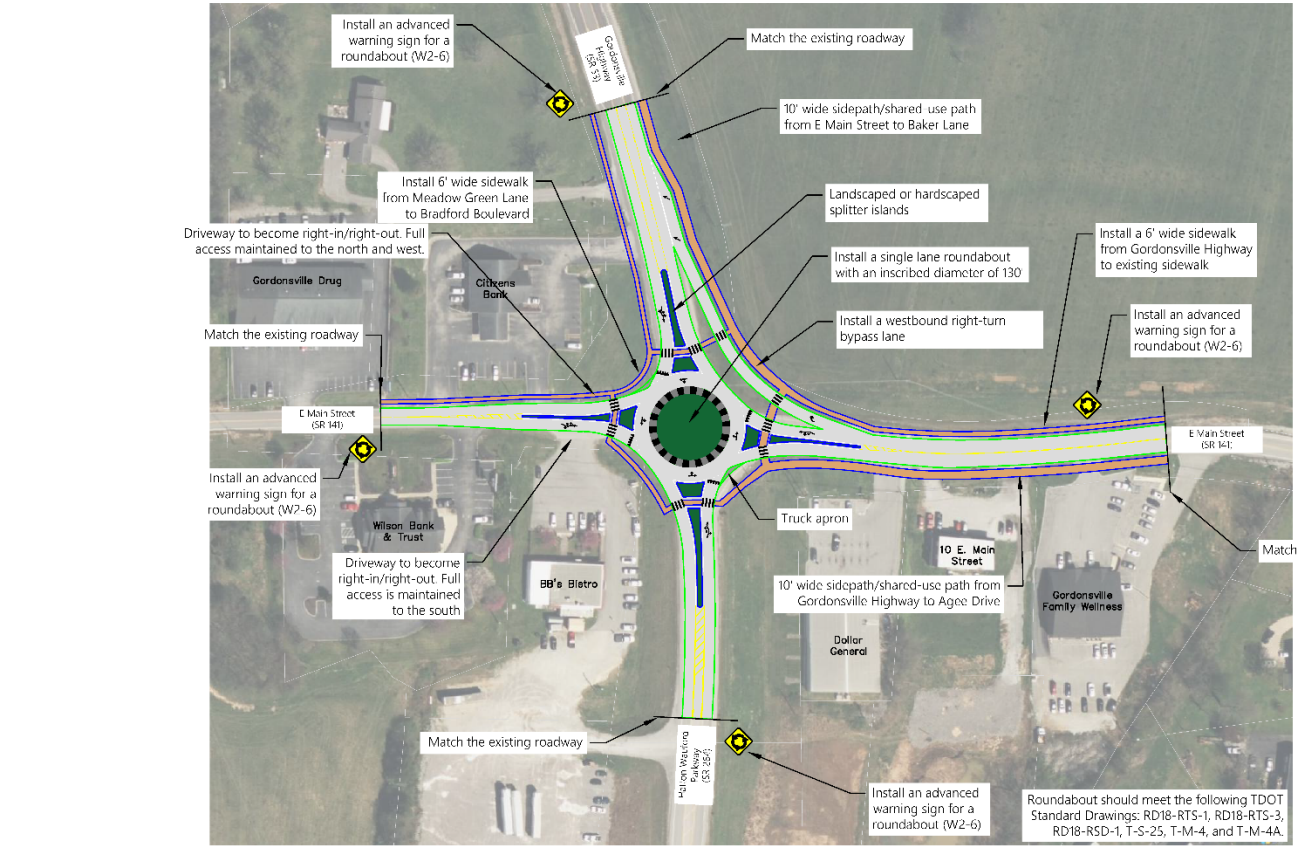
This project could be implemented in the mid-term (3-6 years) through a combination of grant funding, the Town's capital improvement budget, and/or TDOT funding (such as through a combination of STBG, TAP, and MMAG funds).

Planning Level Cost Estimate:

Project Activity	Cost (2021 Dollars)
Preliminary Engineering	$223,000
Right-of-Way and Utilities	$113,000
Construction	$2,230,000
Total Cost	**$2,570,000**

Example Roundabouts:

Roundabout Concept Layout (Project ID 2):



Gordonsville Highway and E. Main Street Single Lane Roundabout Concept

Project ID 3

New East to West Roadway Connector, North of I-40

Description:

Crashes on I-40 frequently divert heavy traffic through Gordonsville, overwhelming the local roadway system along East Main Street. An alternative route north of I-40 would provide relief during detours while also building additional redundancy into the local system, improving emergency vehicle response times and local connectivity for residents. The alignment for this new connector roadway is conceptual but could stretch from Rogers Road to the new Cedar Stone Subdivision on Trousdale Ferry Pike. This new connector is not meant to replace the existing I-40 detour through Gordonsville but would provide an alternative east-west route for times when East Main Street is congested and support local and regional connectivity.

This project could be implemented in the long term (6 years and beyond) through a combination of grant funding for planning/analysis and state and federal funds for construction (in partnership with TDOT). Future private development along this corridor could also contribute to the construction of this facility or preservation of right-of-way if the route is part of an adopted thoroughfare plan.

Additional planning, environmental assessments, and significant stakeholder engagement will be required to identify the preferred alignment for a new connector route.

Planning Level Cost Estimate:

Project Activity	Cost (2021 Dollars)
Preliminary Engineering	$1,250,000
Utilities	$8,240,000
Right-of-Way	$1,000,000
Construction	$15,100,000
Total Cost	**$25,600,000**

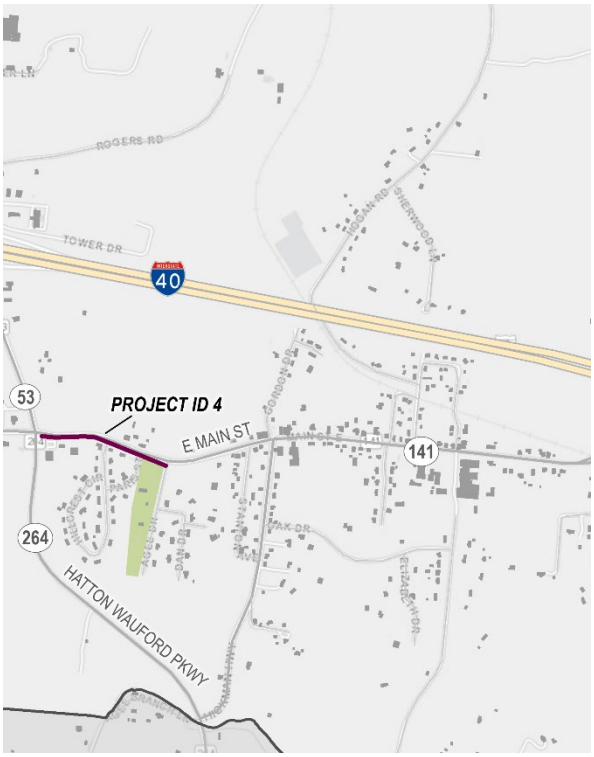
Project ID 4

Sidepath on South Side of East Main Street

Description:

Narrow sidewalks (4-5ft) are present in some locations along the south side of East Main Street between Agee Drive and Meadow Drive, east of Downtown Gordonsville. This project recommendation includes installing a 10ft sidepath to fill in a critical gap in the existing sidewalk network west of Agee Drive.

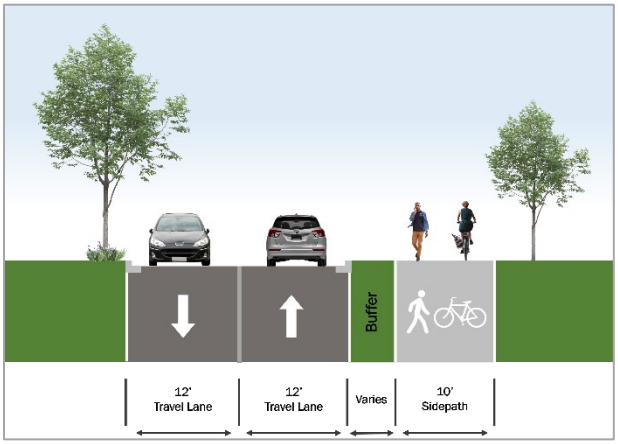
Factors like culverts, drainage features, changes in elevation, and ADA accessibility should be addressed in design. This project could be implemented in the mid-term (3-6 years) through grant funding, the Town's capital budget, or in partnership with TDOT.



Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Sidepath	Midterm	$339,680

Cross Section:



Example Sidepath:

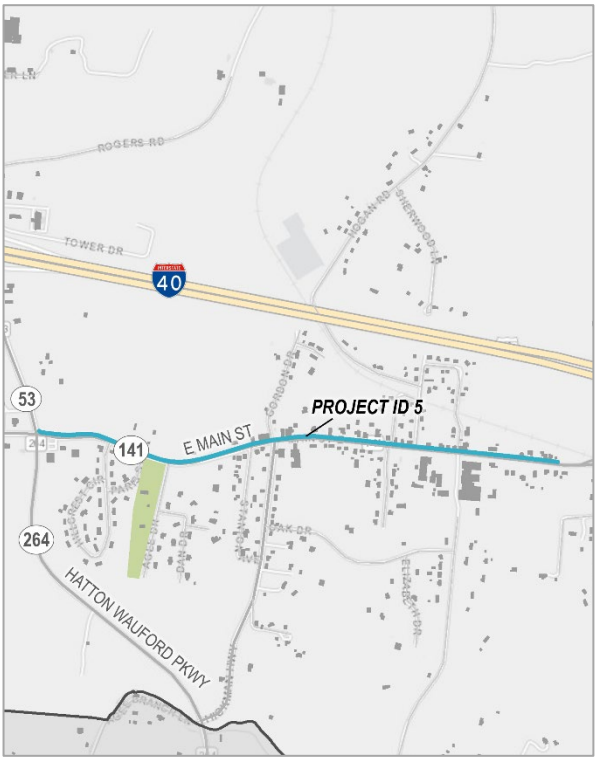
Project ID 5

Sidewalk on North Side of East Main Street (East of Gordonsville Hwy)

Description:

Narrow sidewalks (4-5ft) are present in some locations along the north side of East Main Street between Gordonsville Highway and Meadow Drive. This project recommendation includes filling in the gaps in the existing sidewalk network and constructing new sidewalks to connect west to the proposed sidepath (Project ID 7) along Gordonsville Highway.

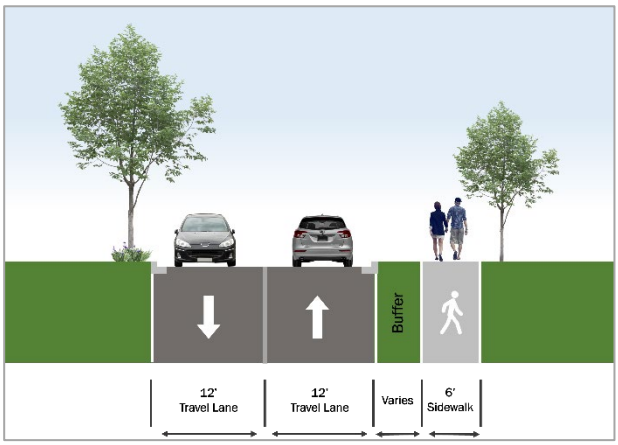
Factors like culverts, drainage features, changes in elevation, and ADA accessibility should be addressed in design. This project could be implemented in the mid-term (3-6 years) through grant funding, the Town's capital budget, or in partnership with TDOT.



Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Sidewalk	Midterm	$702,765

Cross Section:



Example Sidewalk:

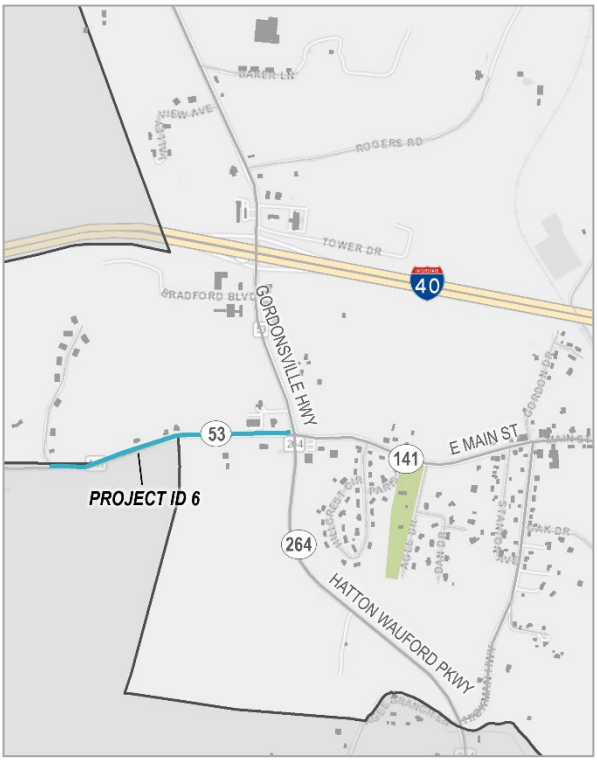
Project ID 6

Sidewalk on North Side of East Main Street (West of Gordonsville Highway)

Description:

The north side of East Main Street between Gordonsville Highway and Meadow Green Lane currently lacks facilities for people walking or bicycling between the Meadow Green Apartments and businesses along Gordonsville Highway. This project recommendation includes constructing a 6-foot wide sidewalk that would connect to the sidewalk on the west side of Gordonsville Highway (Project ID 8) and the new Greenway proposed between Meadow Green Lane and Gordonsville Highway (Project ID 9).

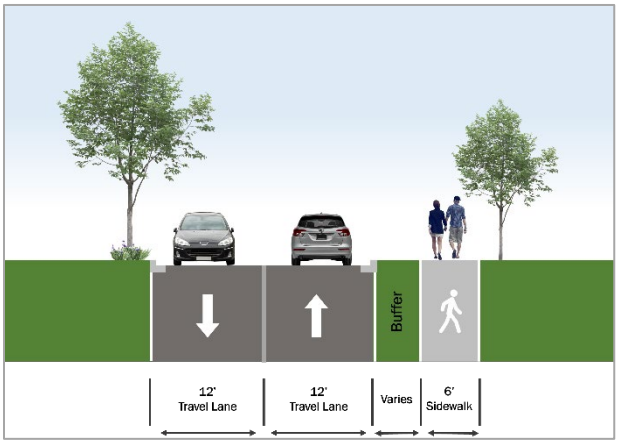
Factors like culverts, drainage features, changes in elevation, and ADA accessibility should be addressed in design. This project could be implemented in the mid-term (3-6 years) through grant funding, the Town's capital budget, or in partnership with TDOT.



Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Sidewalk	Midterm	$327,635

Cross Section:



Example Sidewalk:

Project ID 7

Sidepath on East Side of Gordonsville Highway

Description:

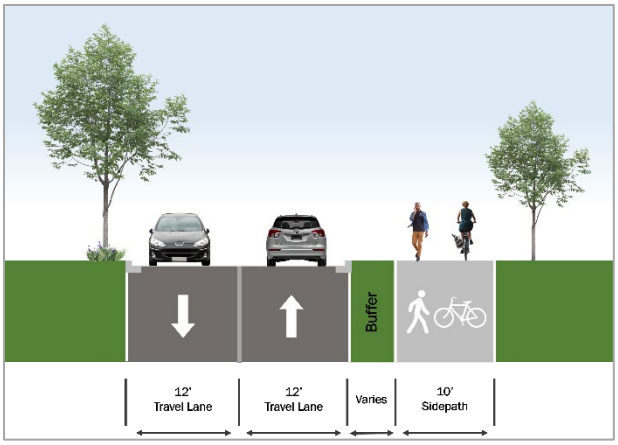
The east side of Gordonsville Highway between East Main Street and Baker Lane currently lacks facilities for people walking or bicycling to access businesses along Gordonsville Highway. This project recommendation includes constructing a 10-foot wide sidepath that would connect to the sidewalk on the north side of East Main Street (Project ID 5) and the commercial and residential developments planned along Baker Lane.

Factors like culverts, drainage features, changes in elevation, and ADA accessibility should be addressed in design. This project could be implemented in the mid-term (3-6 years) through grant funding, the Town's capital budget, or in partnership with TDOT.

Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Sidepath	Midterm	$996,890

Cross Section:



Example Sidepath:

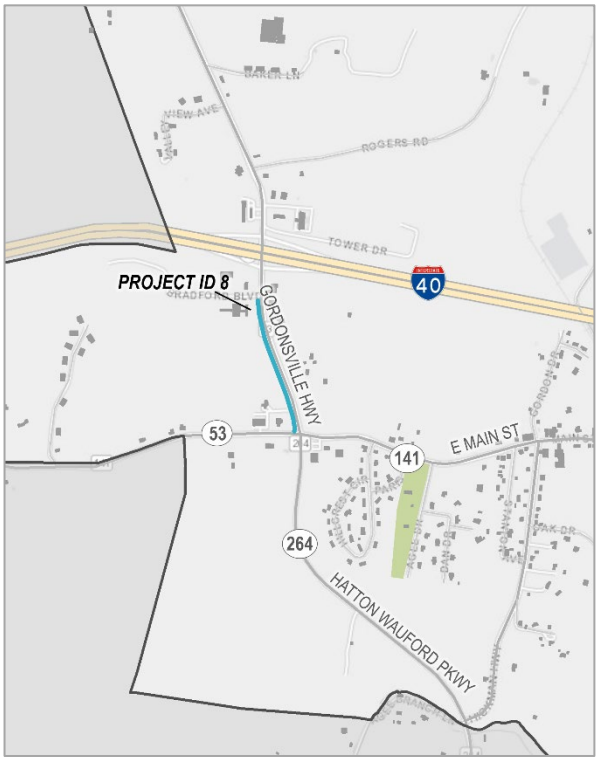
Project ID 8

Sidewalk on West Side of Gordonsville Highway

Description:

The west side of Gordonsville Highway between East Main Street and Bradford Boulevard currently lacks facilities for people walking or bicycling to access the restaurants and truck stop on Gordonsville Highway. This project recommendation includes constructing a 6ft wide sidewalk that would connect to the sidewalk on the north side of East Main Street (Project ID 6).

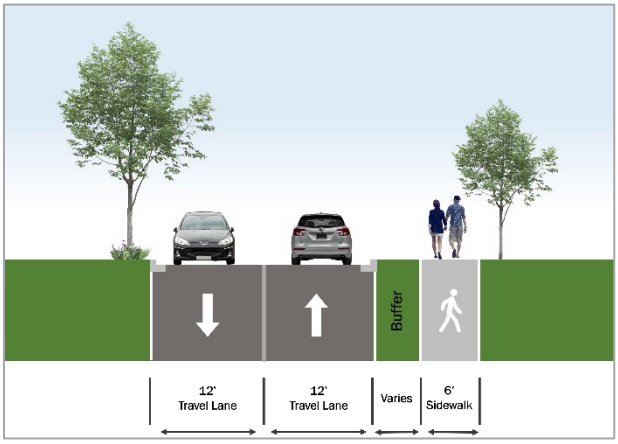
Factors like culverts, drainage features, changes in elevation, and ADA accessibility should be addressed in design. This project could be implemented in the mid-term (3-6 years) through grant funding, the Town's capital budget, or in partnership with TDOT.



Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Sidewalk	Midterm	$182,160

Cross Section:



Example Sidewalk:

Project ID 9

"The Meadow" Greenway

Description:

Walking and bicycling facilities are currently absent between the Meadow Green Apartments along East Main Street and the commercial areas present along Gordonsville Highway. This project recommendation includes the creation of a new 10 foot wide greenway, which would require either a right-of-way purchase or easement and significant coordination with landowners. The preferred alignment, ADA accessibility, and lighting features should be addressed in future planning and design.

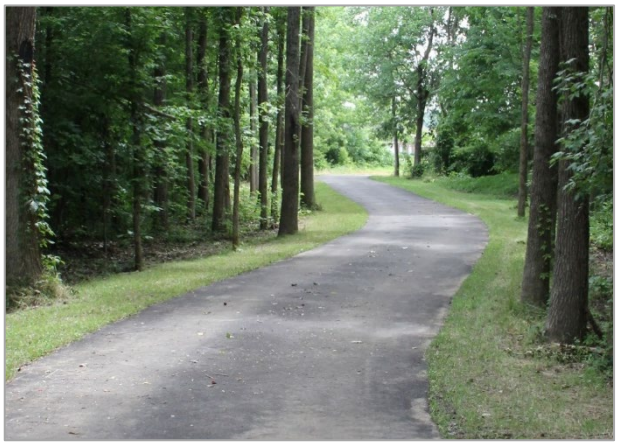
This project could be implemented in the long-term (6 years and beyond) through grant funding or in partnership with TDOT.

Planning Level Cost Estimate:

Project Type	Timeframe	Cost (2021 Dollars)
Greenway	Long-term	$982,250

Cross Section:

Example Greenway:



Project ID 10

Driveway Consolidation and Access Management

Description:

A large number of driveways and access points are present along Gordonsville Highway between I-40 and East Main Street to serve the commercial business district. Consolidation of these access points to key locations and the development of frontage roads or cross-access easements would help maintain the level of service on Gordonsville Highway and business accessibility as traffic volumes increase over time. As additional businesses and residential developments are established, maintaining rigorous standards for new curb cuts along Gordonsville Highway will be key to maintaining traffic operations in this area.

This recommendation could be implemented in the near-term (0-3 years) through the creation of a driveway permitting process and through continued coordination with TDOT to ensure the access management policies outlined in the Highway Systems Access Manual are being applied along Gordonsville Highway, specifically those related to the required minimum spacing of driveways and intersections.

Existing Curb Cuts Along Gordonsville Highway:

Project ID 11

Gridded Roadway System Throughout Gordonsville

Description:

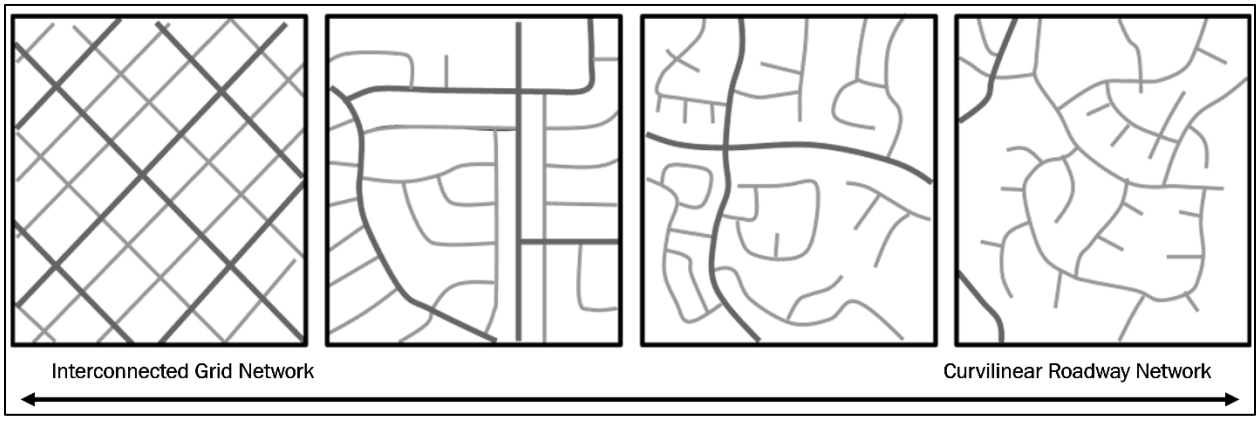
Gordonsville has a unique opportunity to develop an interconnected, grid roadway system to connect to its existing roadway facilities as additional residential, commercial, and industrial development occurs. Interconnected roadways provide several advantages to curvilinear roadway development patterns, including:

- Improved traffic flow: Interconnected roadways typically offer a more direct and efficient route between two points, which can reduce congestion and travel time, while curvilinear roads meander and may not provide efficient paths to desired destinations;
- Better accessibility: Interconnected roadways provide multiple options for traveling to different destinations, which can improve accessibility and connectivity. Curvilinear roads may only provide one access point to a destination, which can limit routing options and result in more traffic on a single road; and,
- Efficient development patterns: Interconnected roadways can better accommodate a range of land uses, including residential, commercial, and industrial uses. Curvilinear roads may limit development opportunities due to their irregular shape and limited access points.

Gordonsville can ensure that an interconnected roadway network develops to accommodate increased traffic volumes by working with developers through the subdivision review process to establish new roadway connections that improve roadway connectivity (as shown on the left side of the below graphic). As large tracts of land develop along Gordonsville Highway, the Town should consider building out an interconnected roadway network to improve access to existing residential developments and the commercial services district.

This recommendation could be implemented in the long-term (6 years or longer) through changes to the Town's subdivision ordinance to ensure that developers are required to set aside right-of-way, and through continued coordination with TDOT to seek funds for additional planning and eventual construction of additional roadways.

Example of Roadway Network Connectivity:



Source: Modified from "Street Network Types and Road Safety", Urban Design International