

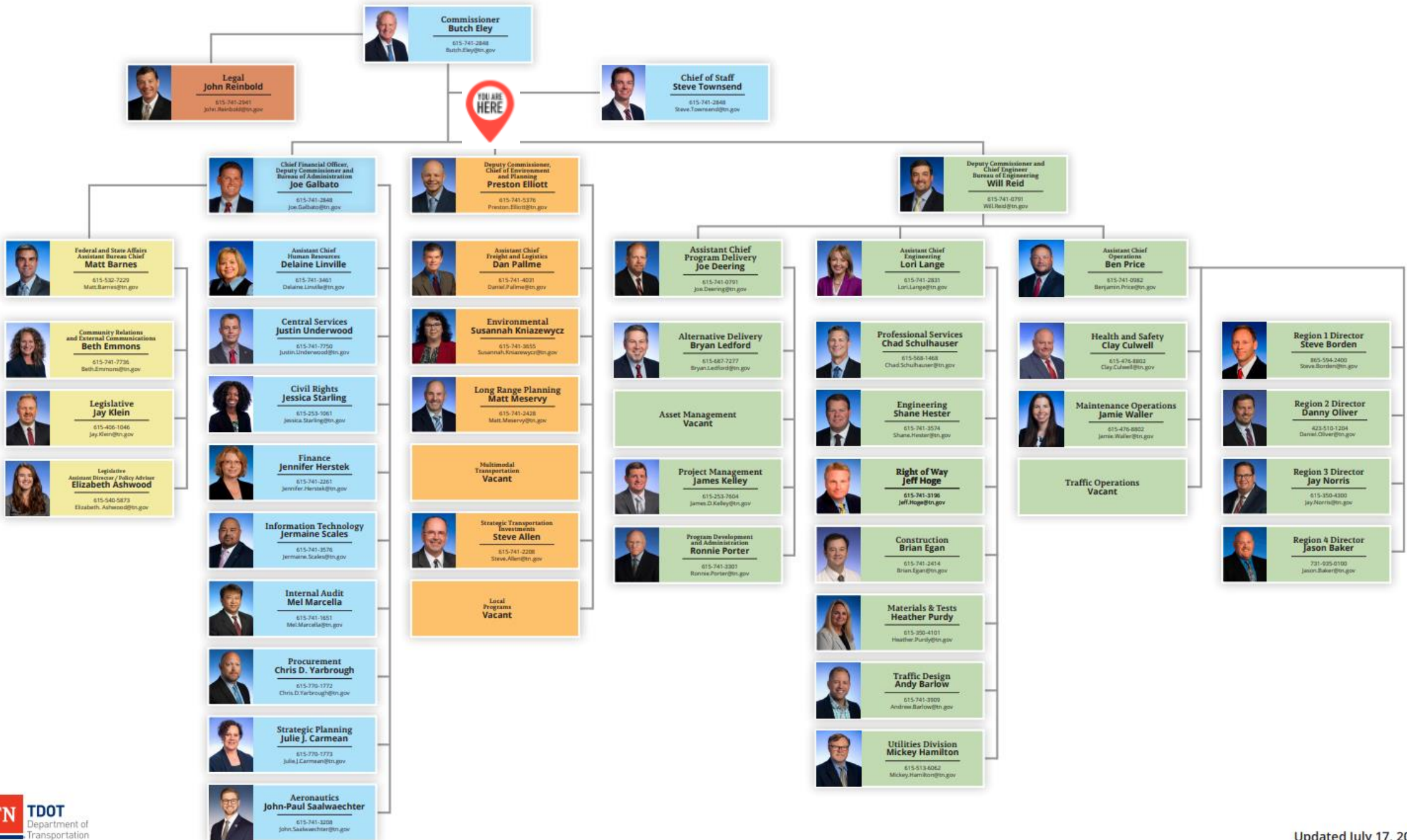


**TDOT**  
Department of  
Transportation

**CDM  
Smith**®

**State Route 343 Complete Streets & ITS  
Traffic Signal Coordination Project**

**Morristown, TN**



**Matt Meservy**  
Long Range Planning Director

**Jennifer Marshall**  
MPO Program Senior Planner

**Stacy Morrison**  
OCT Manager

**Region 1**

**Region 2**

**Region 3**

**Region 4**

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Planning Supervisor

**Bently Thomas**  
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**Vacant**

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Planner

**Vacant**

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Senior Planner

**Ronda Sawyer**  
Planner

**Kevin Layne**  
Planner

**Herman Wright**  
Planner

**Thiera Taylor**  
Planner



# TDOT OCT

1

## LIASON BETWEEN LOCAL AGENCIES & TDOT

OCT works with cities and counties across the state to keep them informed on projects in their area, to assist with any transportation-related issues, and to participate in local transportation planning efforts. OCT encourages communication and collaboration between adjacent communities, sharing pertinent grant information with them and helping to establish corridor management agreements.

2

## OVERSIGHT OF MPO AND RPO PROGRAMS

OCT works with MPOs and RPOs across the state, providing oversight and assistance. Staff review federally required documents, participate in Executive Board and Technical Committee meetings, and provide assistance to MPO and RPO staff. OCT serves as the first point of contact for MPO and RPO staff for any and all questions and concerns.

3

## TRANSPORTATION STUDIES

OCT manages the TDOT Transportation Planning Grant, providing transportation planning opportunities to cities and counties. Through this program, OCT is able to assist local communities with bike/ped plans, corridor studies, and many other planning products. In addition, OCT participates in transportation studies coordinated by MPOs, RPOs, and local municipalities.

4

## ADMINISTRATION & INTERNAL COLLABORATION

OCT works to keep other TDOT offices informed of what's going on in communities in their respective regions. They work with other TDOT staff to address local agency requests, assist with grant application scoring, and coordinate between offices. In addition, OCT dedicates time to continuing education, internal reporting, conference planning, and other general administration duties.



# What is the Transportation Planning Grant?

Launched in 2015, the Transportation Planning Grant program provides resources that assist Tennessee communities in developing transportation plans for preparation of future transportation system, land use, and growth management issues.

## Program Goals

- Assist urban jurisdictions to identify solutions, within their communities, that define the transportation cohesiveness between a multimodal transportation system to achieve the State of Tennessee's transportation goals.
- Guide in determining the strategies that will support improvements in traffic flow, safety, mobility, and overall efficiency of the transportation system.
- Provide identified jurisdictions with planning resources to achieve community visions as related to transportation and land use needs that promote future economic growth.



City of Harriman Bike/Ped Plan, 2021

# What plans are eligible?

- The transportation planning world is your oyster!
- We've typically funded plans such as:
  - Corridor Studies
  - Bicycle & Pedestrian Plans
  - Complete Streets Plans
  - Transportation Systems Management & Operations (TSMO) Studies
  - Community Mobility Plans
  - Resurfacing and Striping Plans
- We welcome any creativity and innovative ideas
- If you have questions on potential eligibility, reach out to your OCT staff and RPO/MPO staff



Technical Study  
SIGNAL SYSTEM EVALUATION, OPTIMIZATION,  
AND COMMUNICATIONS MASTER PLAN



Prepared for  
 **TDOT**  
Department of  
Transportation  
  
in Cooperation with  
**TOWN OF GREENEVILLE**  
PUBLIC WORKS DEPARTMENT

September 2019

Prepared by  
  
1100 Marion Street, Suite 300  
Knoxville, Tennessee 37921

Project No. 234821

Town of Greeneville TSMO Study, 2019

# Who does what throughout the planning process?

City/County	Consultants	TDOT Staff
Approve Scope of Work	Complete Scope of Work	Set up the contract with consultants
Recommend Stakeholders	Organize Meetings	Review Scope of Work & issue Notice to Proceed
Participate in meetings	Collect Data	Oversee the planning process
Assist in getting the word out about Public Outreach	Conduct Public Outreach & analyze Public Survey data	Collect, review, & approve invoices for payment
Review draft plan & submit feedback	Draft a final plan	Review draft plan & submit feedback
Sign a resolution adopting the plan once complete	Submit a final plan	Ensure that plan meets local & TDOT expectations*

\*All work requires approval of the local jurisdiction

# What do communities do with completed plans?

**TDOT**  
Department of  
Transportation

## Transportation Funding Database

Clear

**Welcome to the Transportation Funding Database! Below you will find information on federal, state, and non-profit funding opportunities for all things transportation. Use the tools below to sort through the table by agency, category, or keyword search. If you have questions about funding opportunities, which program may work best for you, or need assistance, please reach out to your designated TDOT Office of Community Transportation staff [here](#). Are there missing funding programs or would you like to provide other feedback? Please fill out this [form](#).**

Category

All ▼

General Search

Search 🔍

Agency

All ▼

Grant	Agency	Description	Amount
AARP Community Challenge	AARP	The AARP Community Challenge provides small grants to fund quick-action projects that can help communities become more livable for people of all ages. Through this program, AARP offers 3 grants: 1. Flagship Grants (ranging from \$500-\$50,000), 2. Capacity-Building Microgrants (about \$2,500), and 3. Demonstration Grants (ranging from \$10,000-\$50,000). Each have their own criteria and focus. Flagship Grants have a transportation and mobility options category for the increasing of connectivity, walkability, bikeability, and access to public and private transit. Capacity-Building Grants are more focused on one-on-one coaching, and through this program you can perform walk audits to assess and enhance the safety and walkability of a street or neighborhood. Demonstration Grants can be used for advancing solutions that build capacity towards transportation systems change.	\$500-\$50,000
Advanced Transportation Technologies & Innovation (ATTAIN)	FHWA	The ATTAIN program provides competitive grants to deploy, install, and operate advanced transportation technologies to improve safety, mobility, efficiency, system performance, intermodal connectivity, and infrastructure return on investment. Some eligible activities include: advanced transportation technologies to improve emergency evacuation and responses by authorities, integrated corridor management systems, and advanced parking reservation or variable pricing systems. Please visit the website for additional eligibility information.	\$12 million maximum
Appalachian Regional Initiative for Stronger Economies (ARISE)	ARC	ARISE projects must address at least one of ARC's five strategic investment priorities: 1.) building workforce developments, 2.) building businesses, 3.) building infrastructure, 4.) building regional culture and tourism, or 5.) building leaders and community capacity.  ARISE projects must also include partnerships and collaboration across multiple states. Projects must serve and benefit at least 2 states within the Appalachian Region, but they do not need to be contiguous.	Planning Grants: up to \$500,000 Implementation Grants: up to \$500,000
ARC Local Access Road Program	ARC	ARC's Access Road Program links the Region's communities, businesses, and residents to the Appalachian Development Highway	



# Transportation Funding Database



- Search For TDOT OCT – At bottom of page

## Office of Community Transportation (OCT)

The Office of Community Transportation (OCT) gives TDOT a thorough understanding of local communities and the various transportation planning documents and policies in place. The office is comprised of two sections, [Community Planning](#) and [Regional Planning](#). The OCT's mission is to coordinate the state's transportation planning, local land use decisions, and community visions to guide the development of a safe and efficient statewide transportation system.

The OCT accomplishes this mission through the following:

- Partnering with local agencies to determine appropriate land-use and infrastructure (or transportation facilities)
- Strengthening local partner collaboration on transportation decisions
- Improving communication between TDOT and local partners through planning efforts

### **\*NEW\***

The [Transportation Funding Database](#) was developed to house transportation funding programs from Federal, State, and non-profit sources. Use this tool to browse available funding opportunities for transportation projects and initiatives. Contact your [OCT staff](#) with any questions.



## Traffic Signalization and complete streets plan

### Morristown, TN

TSITE Summer Meeting

July 26, 2023



# CDM Smith Team

- **Melody Butler**
- **John Gould**
- **Chris Kirby**
- Allyson Boyd
- Liza Joffrion
- Jeff Mize

## Fairpointe Planning:

- Tanisha Hall
- Veronica Carter



# Scope and Schedule

	2021					
	July	Aug	Sept	Oct	Nov	Dec
<b>Task 1 - Project Management</b>						
<b>Task 2 - Public Involvement</b>						
Steering Committee Engagement						
Community Engagement						
<b>Task 3 - Quality Control</b>						
<b>Task 4 - Traffic Signal Coordination</b>						
Data Collection						
Data Analysis						
Recommendations and Report						
<b>Task 5 - Complete Streets Plan</b>						
Data Collection						
Data Analysis						
Recommendations and Report						

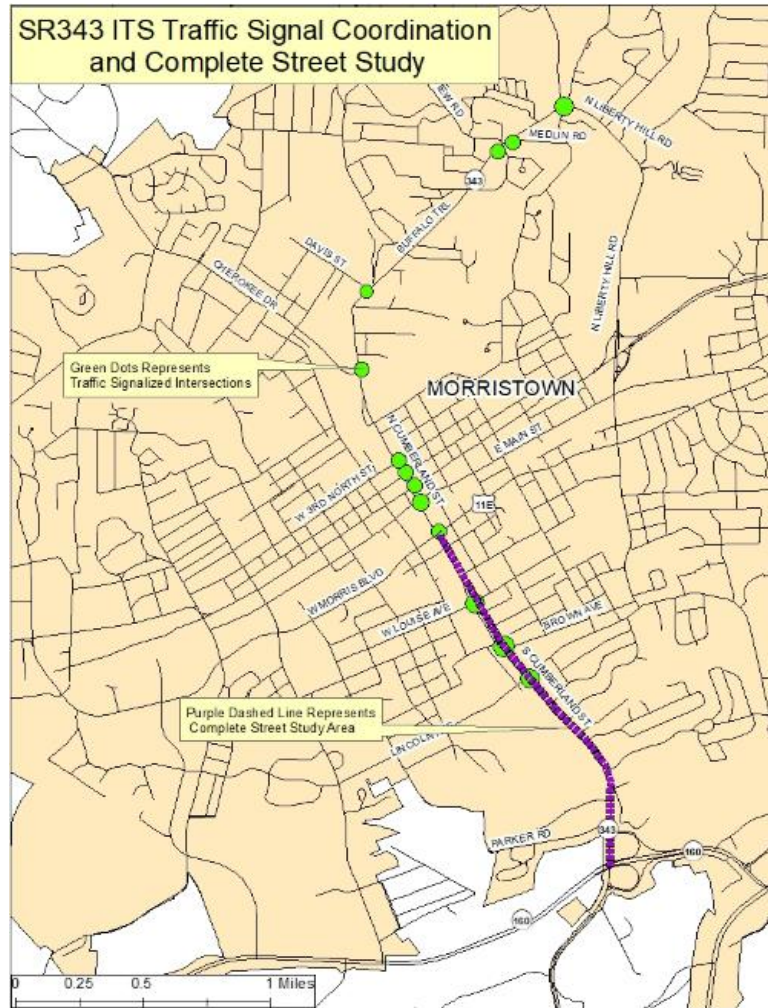


# Project Purpose

## Traffic Signal Coordination

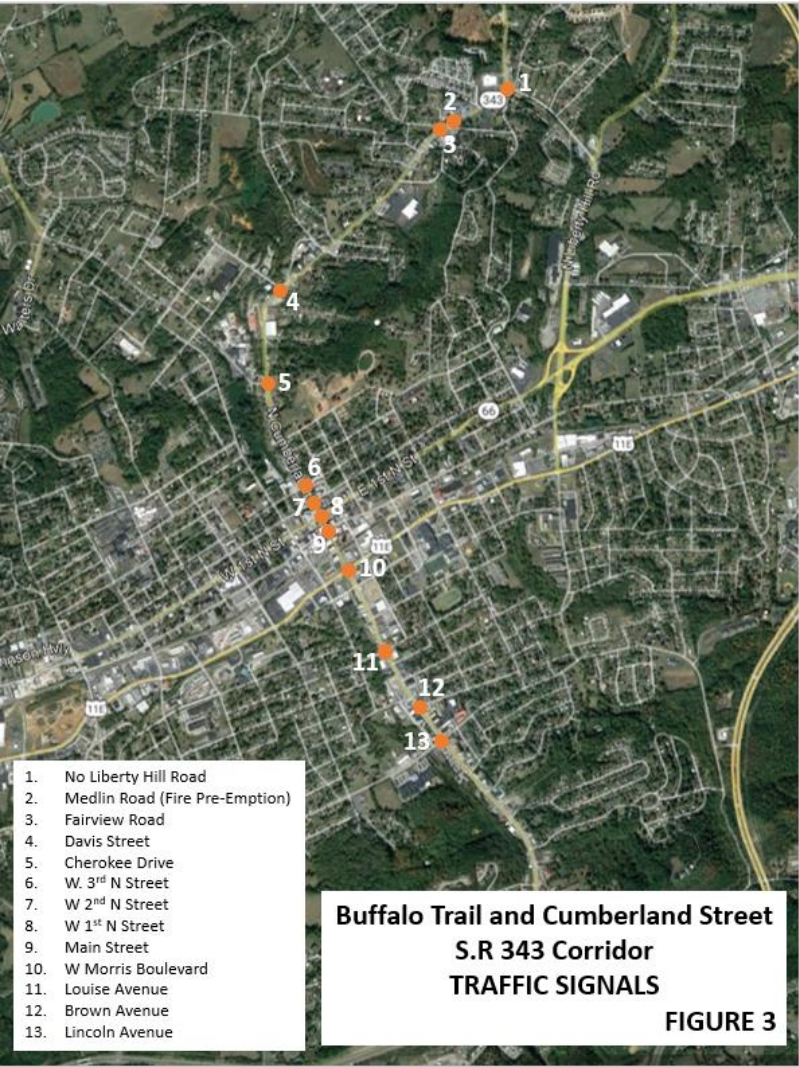
- Lincoln Avenue to N Liberty Hill Road
- 13 signalized intersections
- Update signal equipment and coordinate throughout corridor
- Upgrade to meet ADA standards

## Complete Streets

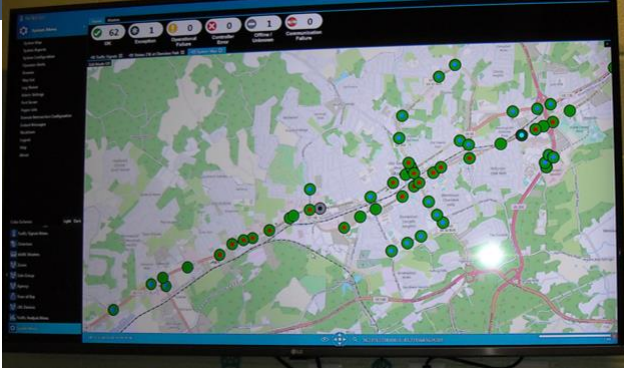




# Cumberland Street/Buffalo Trail (SR 343) Signals



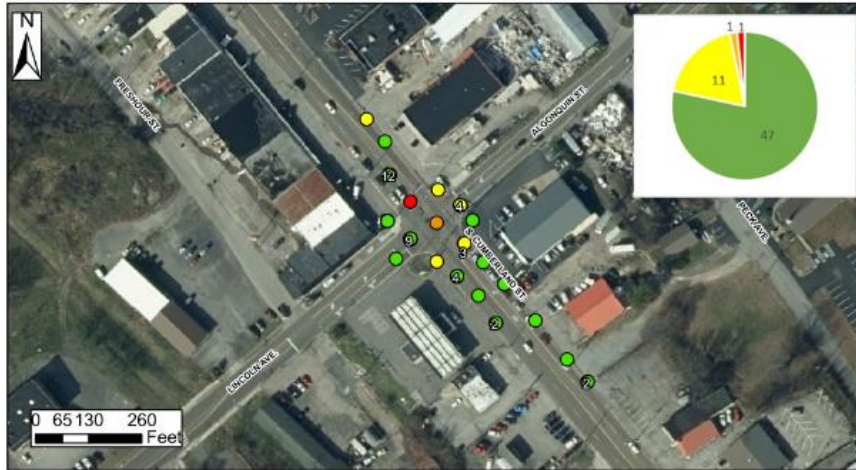
## Cumberland Street/Buffalo Trail (S.R. 343) Corridor





# Crash Data

**SR 343 (S. Cumberland St.) at Lincoln Ave. / Algonquin St.**  
Crashes from Jan. 2015 through Dec. 2019



**SR 343 (S. Cumberland St) at Brown Ave.**  
Crashes from Jan. 2015 through Dec. 2019

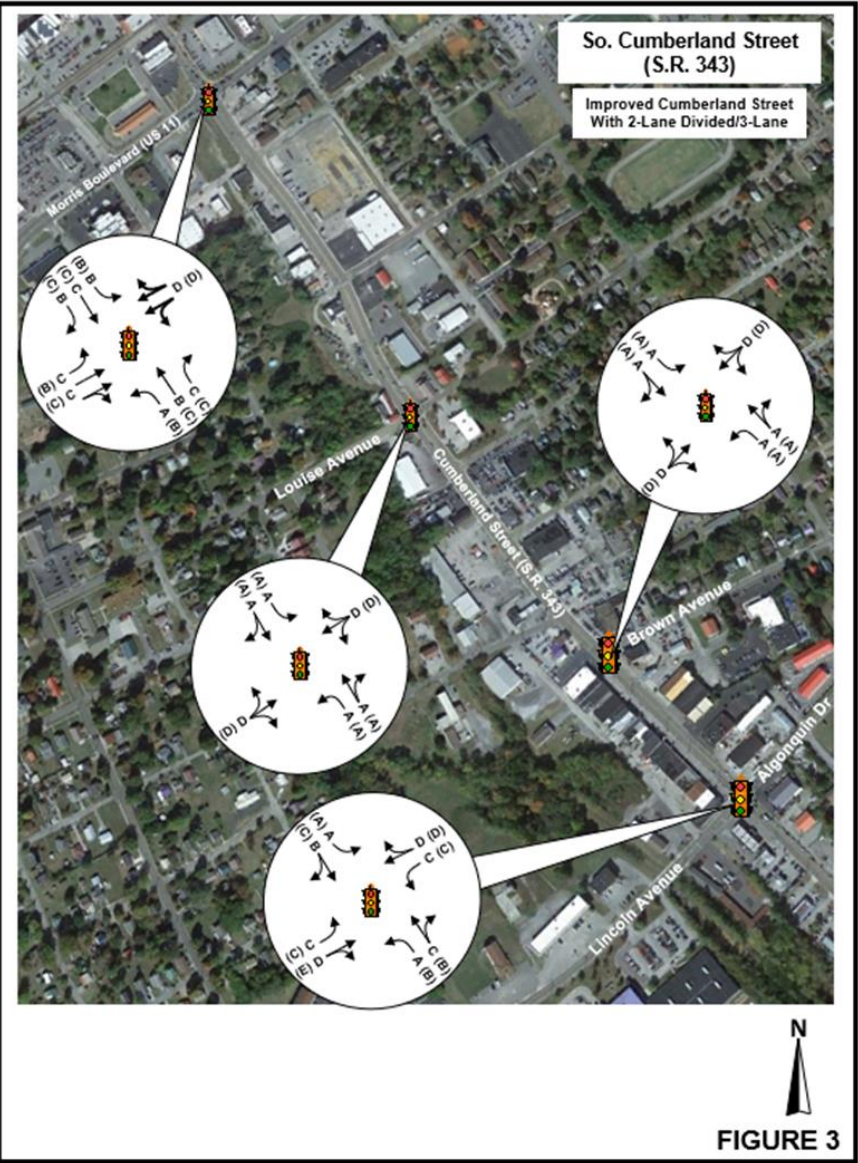
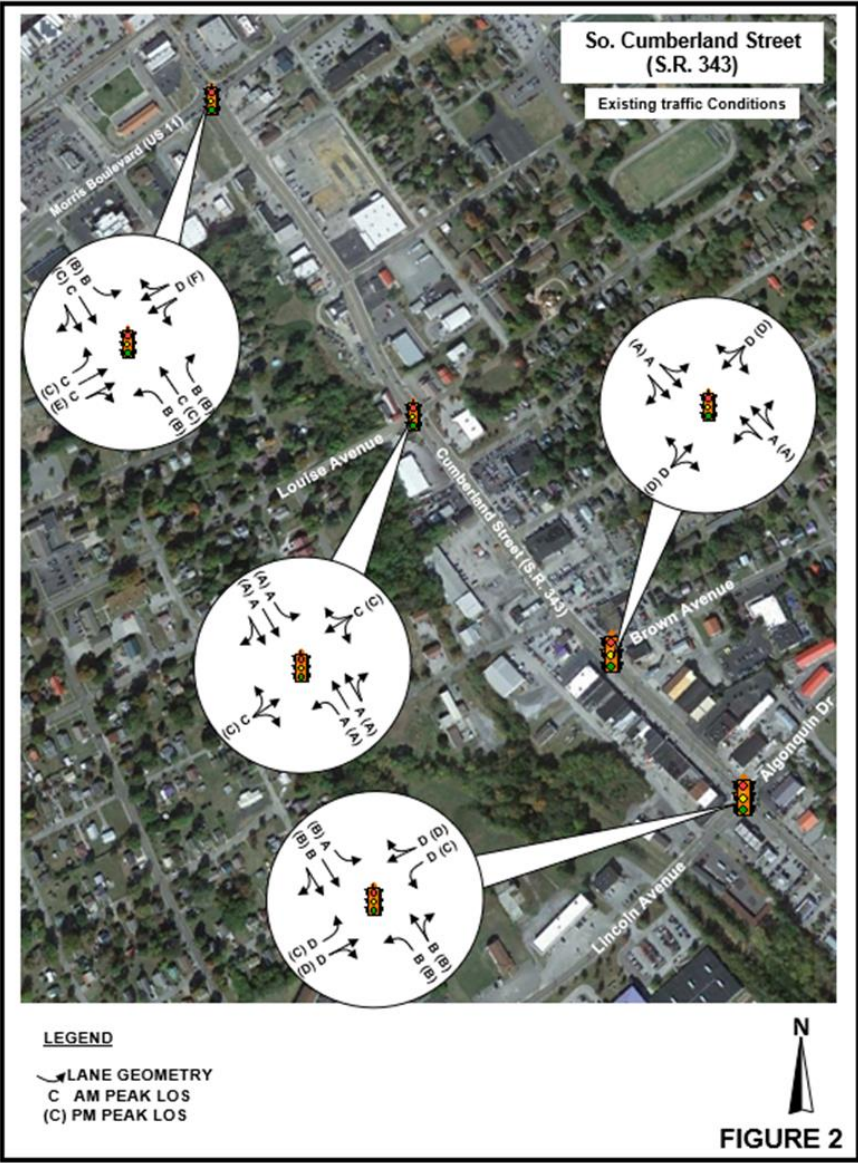


- Legend**
- Property Damage
  - Suspected Serious Injury
  - Unknown/ Other
  - Rear End
  - Suspected Minor Injury
  - Fatal
  - Angle
  - Head On
  - Sideswipe, Opposite Direction
  - Sideswipe, Same Direction
  - No Collision with Vehicle

- Legend**
- Property Damage
  - Suspected Minor Injury
  - Unknown/ Other
  - Rear End
  - Angle
  - Head On
  - Sideswipe, Opposite Direction
  - Sideswipe, Same Direction
  - No Collision with Vehicle

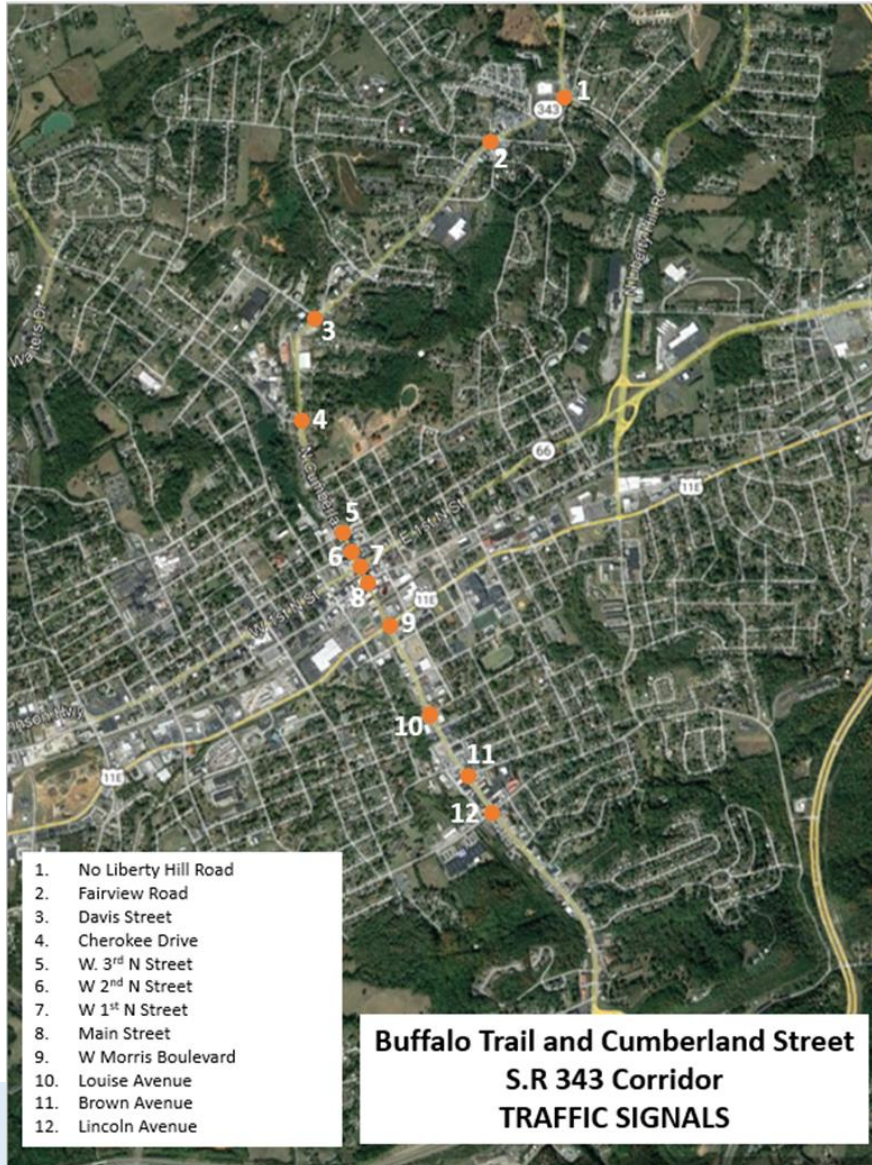


# Turning Movements





# Existing Level of Service

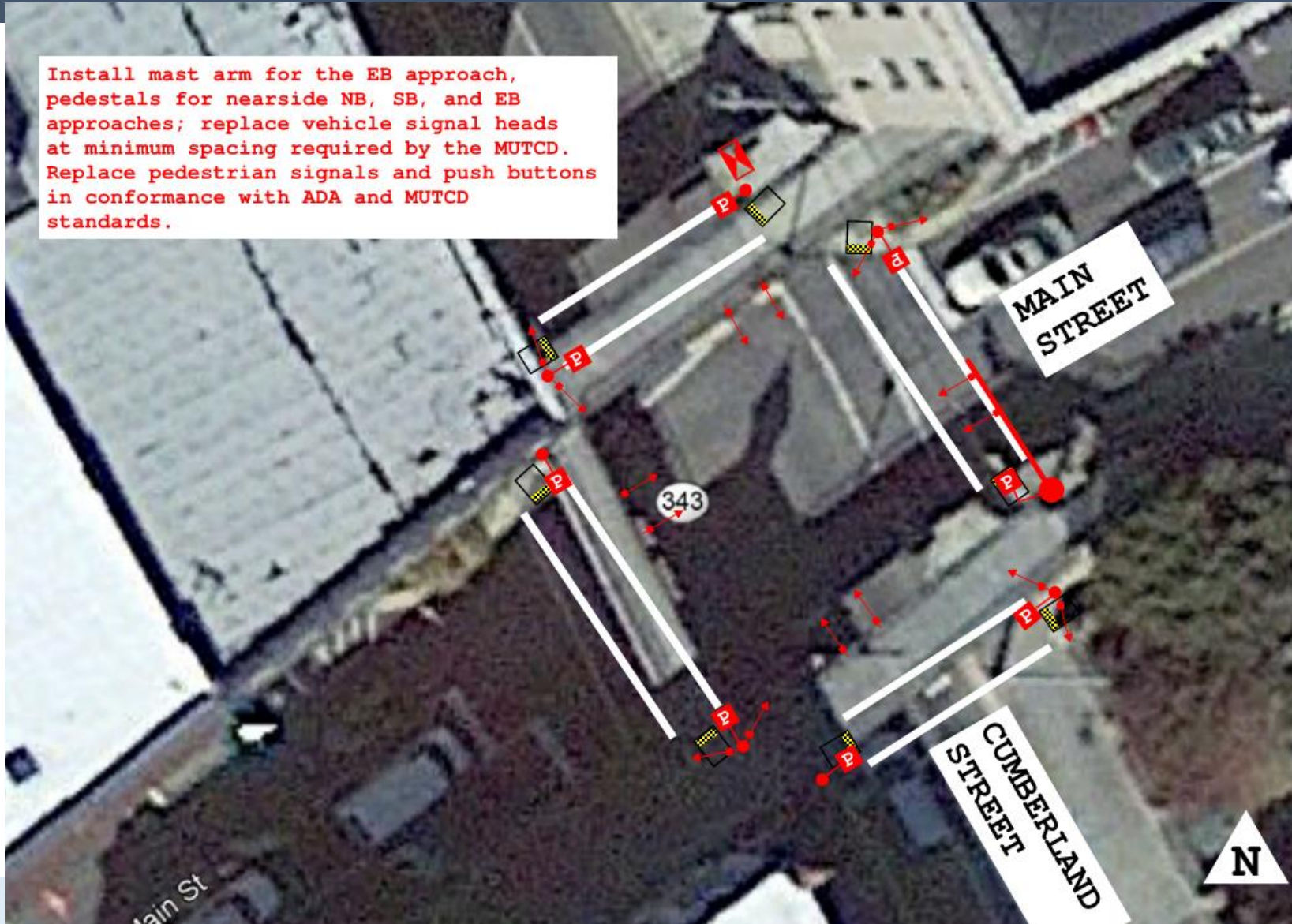


CAPACITY & LEVEL OF SERVICE							
City of Morristown							
SIGNAL GROUP	PEAK HOUR	EXISTING			OPTIMIZED		
		V/C	AVERAGE DELAY	LEVEL OF SERVICE	V/C	AVERAGE DELAY	LEVEL OF SERVICE
<b>CUMBERLAND STREET/BUFFALO TRAIL (S.R. 343)</b>							
1. Buffalo Trail (S.R. 343) & No. Liberty Hill Road	AM	0.53	24.2	C	0.60	20.8	C
	OFF	0.47	25.3	C	0.51	22.6	C
	PM	0.58	27.5	C	0.63	25.3	C
	PM	0.59	28.1	C	0.61	22.5	C
2. Buffalo Trail (S.R. 343) & Fairview Road	AM	0.61	21.4	C	0.66	19.4	A
	OFF	0.53	17.5	B	0.54	21.4	C
	PM	0.72	24.0	C	0.76	23.8	C
	PM	0.64	18.3	B	0.65	15.0	B
3. Buffalo Trail (S.R. 343) & Davis Road	AM	0.53	7.7	A	0.54	5.2	A
	OFF	0.50	10.5	B	0.50	10.5	B
	PM	0.53	16.6	B	0.54	16.2	B
	PM	0.60	14.8	B	0.59	16.4	B
4. No. Cumberland Street (S.R. 343) & Cherokee Drive	AM	0.32	9.5	A	0.37	9.7	A
	OFF	0.36	8.1	A	0.42	13.9	B
	PM	0.36	8.7	A	0.42	8.5	A
	PM	0.45	14.2	B	0.49	10.1	B
5. No. Cumberland Street (S.R. 343) & W. 3rd N. Street	AM	0.39	6.5	A	0.40	5.0	A
	OFF	0.37	12.2	B	0.38	9.5	A
	PM	0.47	11.8	B	0.49	10.1	B
	PM	0.53	17.1	B	0.55	16.2	B
6. No. Cumberland Street (S.R. 343) & W. 2nd N. Street	AM	0.49	23.7	C	0.42	7.2	A
	OFF	0.41	19.2	B	0.34	7.9	A
	PM	0.49	16.4	B	0.41	7.5	A
	PM	0.42	9.4	A	0.44	9.2	A
7. No. Cumberland Street (S.R. 343) & W. 1st N. Street	AM	0.58	32.9	C	0.61	24.3	C
	OFF	0.57	30.7	C	0.62	24.7	C
	PM	0.63	32.9	C	0.69	25.9	C
	PM	0.60	31.5	C	0.63	24.6	C
8. No. Cumberland Street (S.R. 343) & Main St	AM	0.36	11.8	B	0.45	15.5	B
	OFF	0.49	19.3	B	0.60	18.3	B
	PM	0.42	21.3	C	0.46	20.4	C
	PM	0.50	20.0	C	0.52	18.2	B
9. So. Cumberland Street (S.R. 343) & W. Morris Boulevard	AM	0.58	24.5	C	0.59	22.3	C
	OFF	0.74	62.7	E	0.67	36.9	D
	PM	1.03	172.7	F	0.97	34.6	C
	PM	0.82	131.7	F	0.74	26.3	C
10. So. Cumberland Street (S.R. 343) & Louis Avenue	AM	0.30	4.8	A	0.28	4.2	A
	OFF	0.24	6.2	A	0.22	9.2	A
	PM	0.31	7.6	A	0.29	8.8	A
	PM	0.27	5.5	A	0.24	7.0	A
11. So. Cumberland Street (S.R. 343) & Brown Ave	AM	0.27	4.9	A	0.28	4.6	A
	OFF	0.16	3.1	A	0.17	3.6	A
	PM	0.23	4.5	A	0.25	4.4	A
	PM	0.28	3.4	A	0.29	3.8	A
12. So. Cumberland Street (S.R. 343) & Lincoln Avenue/Algonquin Drive	AM	0.57	24.5	C	0.66	24.1	C
	OFF	0.42	20.5	C	0.45	18.3	B
	PM	0.77	37.7	D	0.89	44.3	D
	PM	0.48	24.6	C	0.51	22.8	C









# Proposed Improvements

Install mast arm for the EB approach, pedestals for nearside NB, SB, and EB approaches; replace vehicle signal heads at minimum spacing required by the MUTCD. Replace pedestrian signals and push buttons in conformance with ADA and MUTCD standards.



## PROPOSED

-  CABINET W ATC CONTROLLER
-  POLE & MAST ARM
-  PEDESTAL
-  PUSH BUTTON POST
-  PEDESTRIAN SIGNAL
-  SIGNAL HEAD

NOT TO SCALE

CUMBERLAND STREET (SR 343) & MAIN STREET SIGNAL CONCEPT

# Proposed Level of Service

## SOUTH CUMBERLAND STREET (SR-343) CAPACITY & LEVEL OF SERVICE SUMMARY

SOUTH CUMBERLAND STREET (S.R. 343) INTERSECTION	PEAK HOUR	EXISTING CONDITIONS				PROPOSED CUMBERLAND IMPROVMENTS				PROPOSED CUMBERLAND IMPROVMENTS WITH MORRIS BLVD WB LEFT-TURN LANE				PROPOSED CUMBERLAND IMPROVMENTS WITH WB LEFT-TURN PROHIBITION FROM MORRIS BLVD			
		V/C	AVERAGE DELAY	LEVEL OF SERVICE	WB LT QUEUE	V/C	AVERAGE DELAY	LEVEL OF SERVICE	WB LT QUEUE	V/C	AVERAGE DELAY	LEVEL OF SERVICE	WB LT QUEUE	V/C	AVERAGE DELAY	LEVEL OF SERVICE	WB LT QUEUE
9. W. Morris Boulevard	AM	0.58	24.5	C	237	0.57	25.3	C	>232	0.59	22.5	C	>605	0.52	23.5	C	205
	PM	0.82	131.7	F	>505	0.81	26.1	C	>307	0.74	26.7	C	>559	0.74	23.4	C	210
10. Louise Avenue	AM	0.30	4.8	A		0.49	5.0	A						0.54	7.0	A	
	PM	0.27	5.5	A		0.42	6.1	A						0.47	9.9	A	
11. Brown Avenue	AM	0.27	4.9	A		0.48	5.4	A						0.48	5.7	A	
	PM	0.28	3.4	A		0.50	4.2	A						0.50	5.3	A	
12. Lincoln Avenue/Algonquin Drive	AM	0.57	24.5	C		0.65	24.3	C						0.65	24.4	C	
	PM	0.48	24.6	C		0.71	27.3	C						0.71	26.4	C	

# Project Purpose

## Traffic Signal Coordination Complete Streets

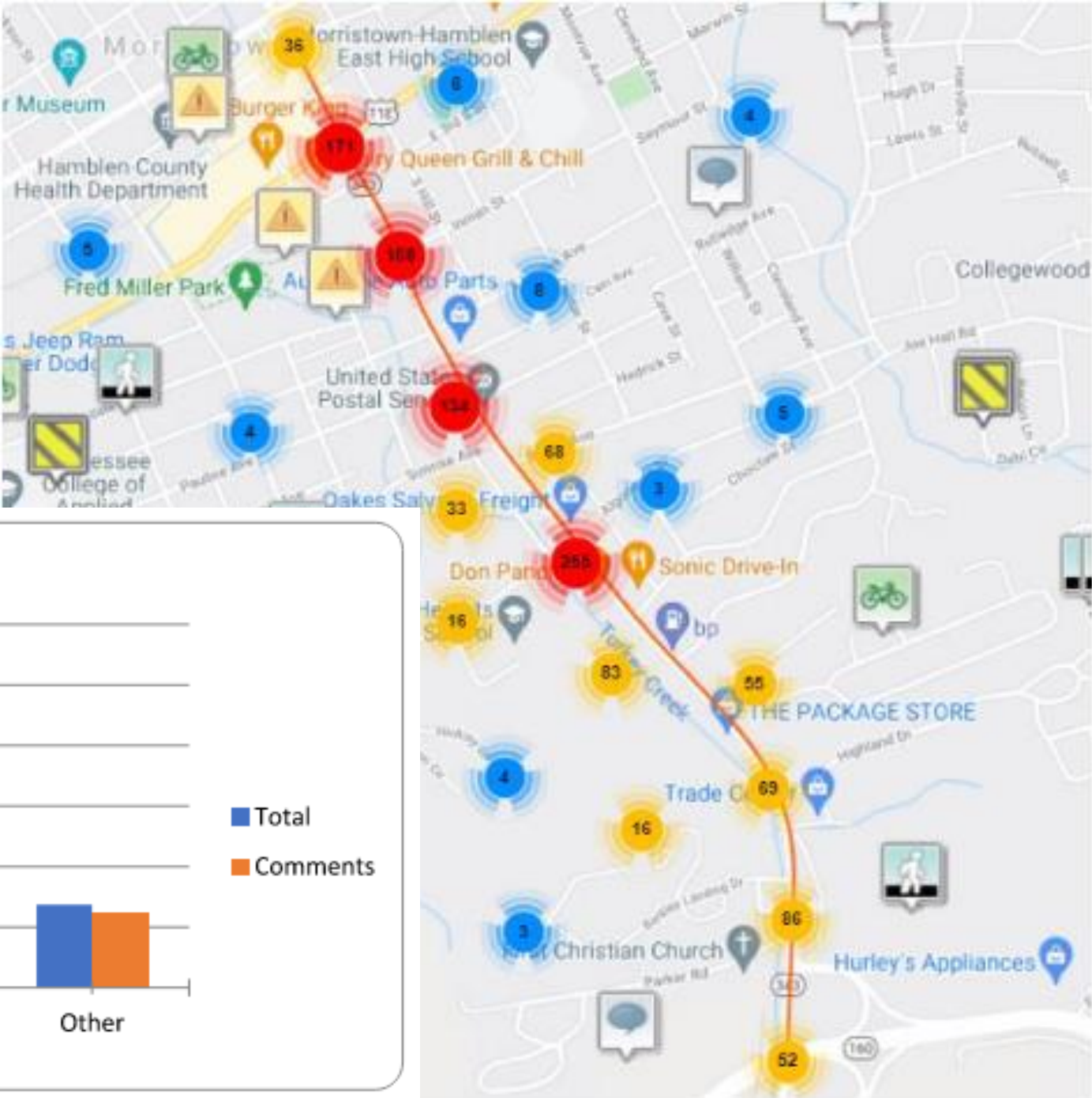
- US Hwy 11E/E/W Morris Boulevard to SR 160
- Improve safety
- More pedestrian and bicycle friendly
- Enhance aesthetics
- Improvements to various intersections
- Road diet



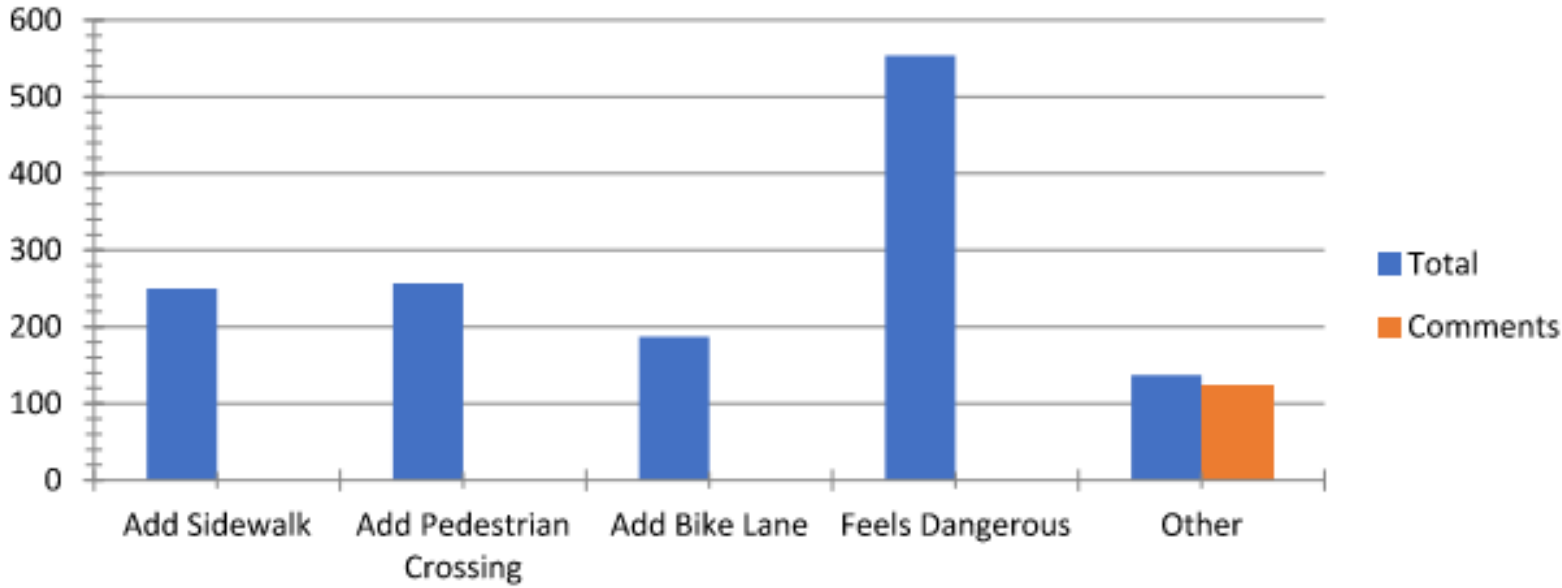


# Public Survey Results

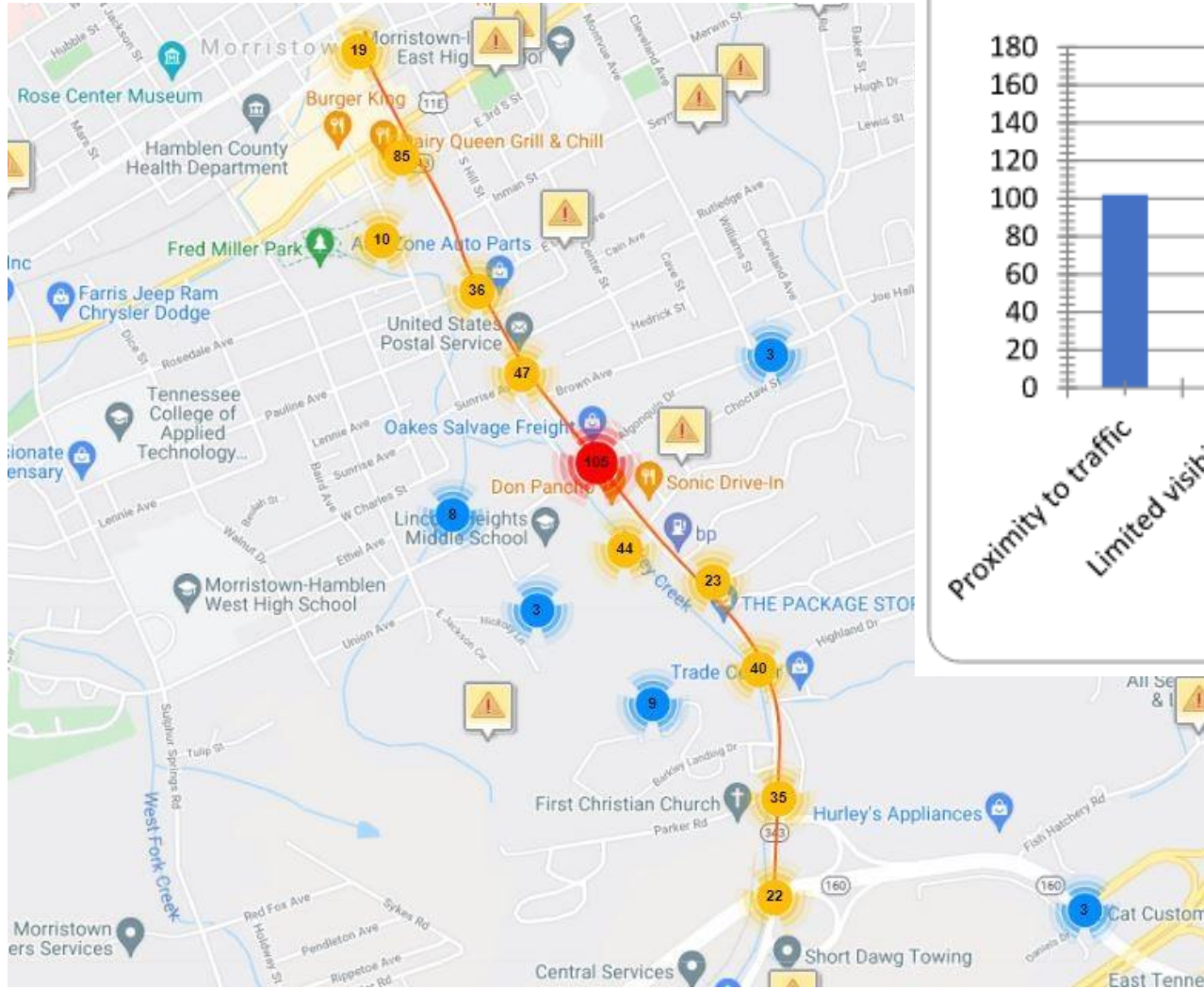
Where do you want to see changes?



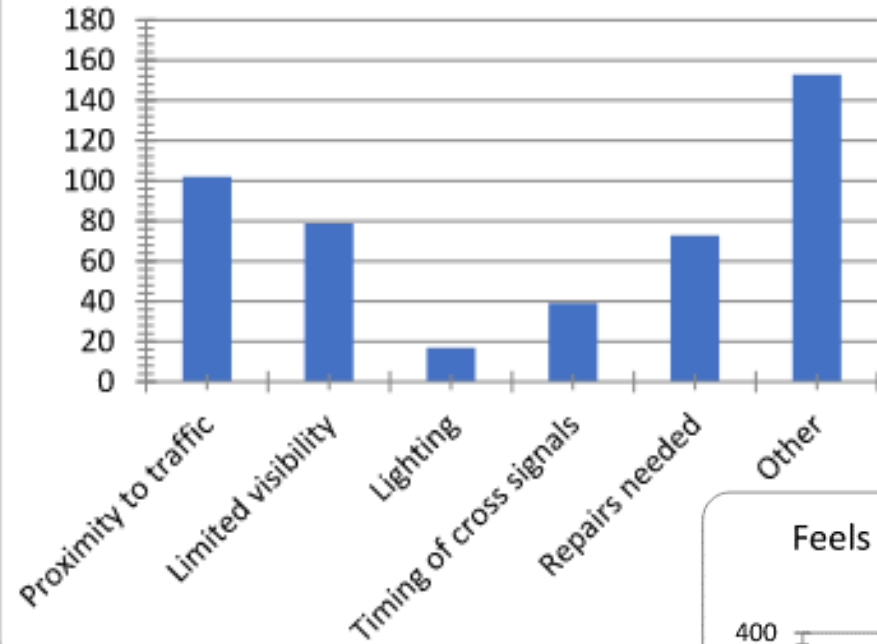
Map Marker Summary



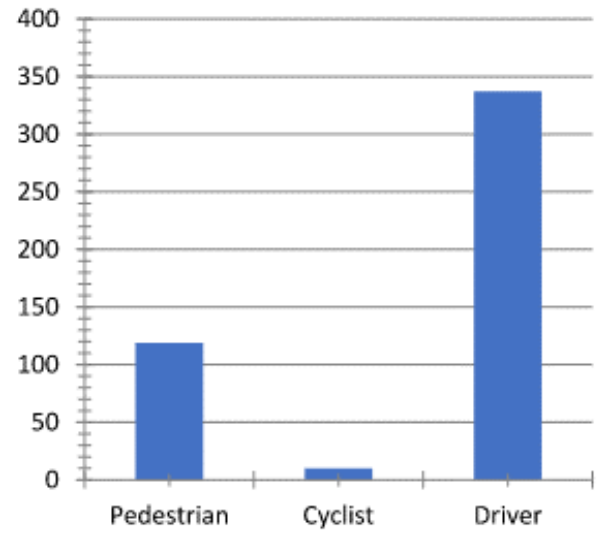
# Public Survey Results



## Feels Dangerous - What is your concern?



## Feels Dangerous - Perspective of concern

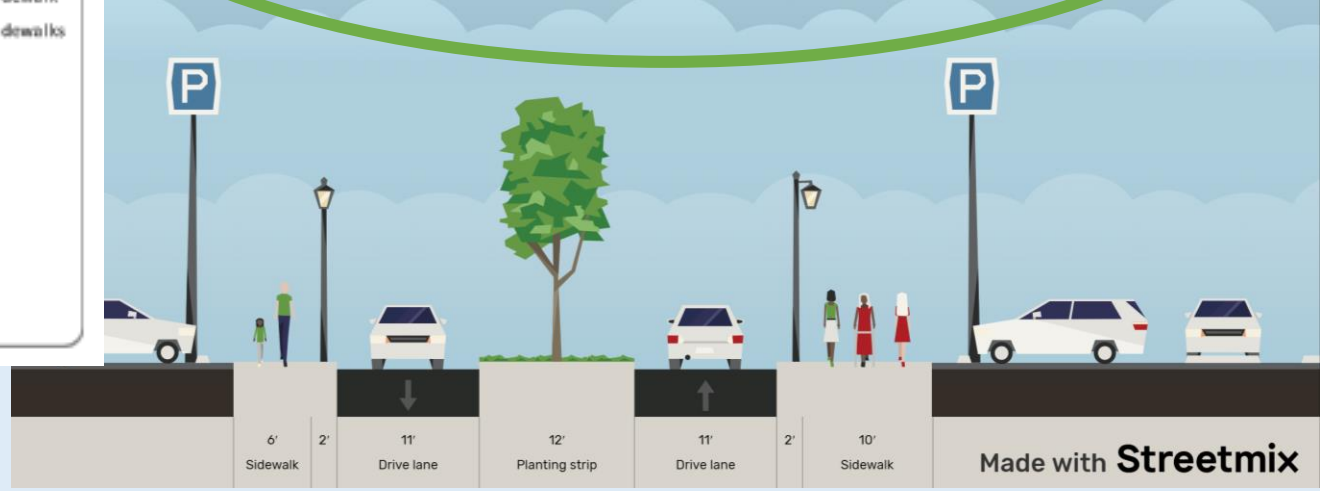
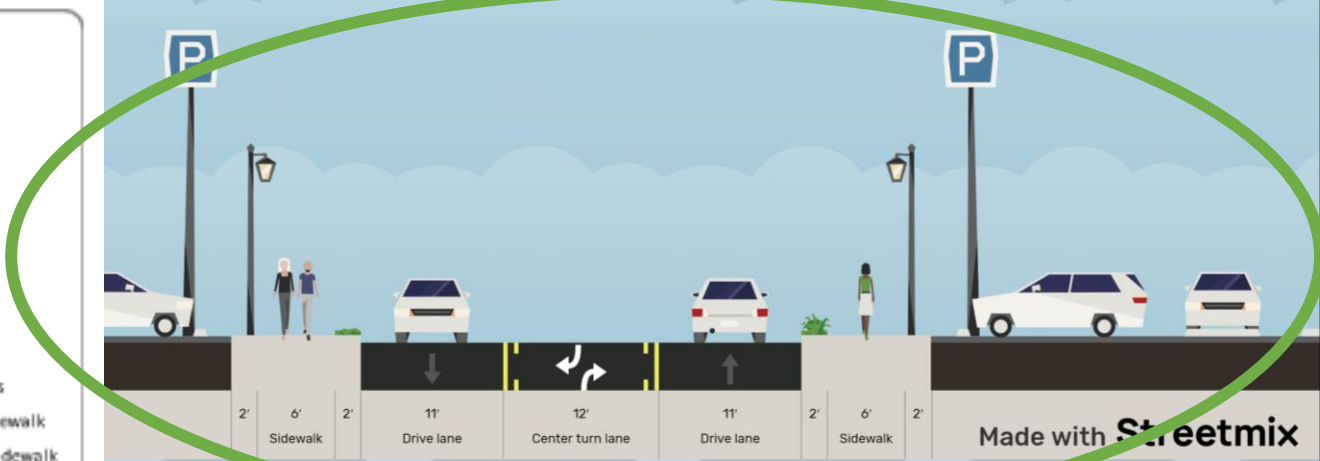
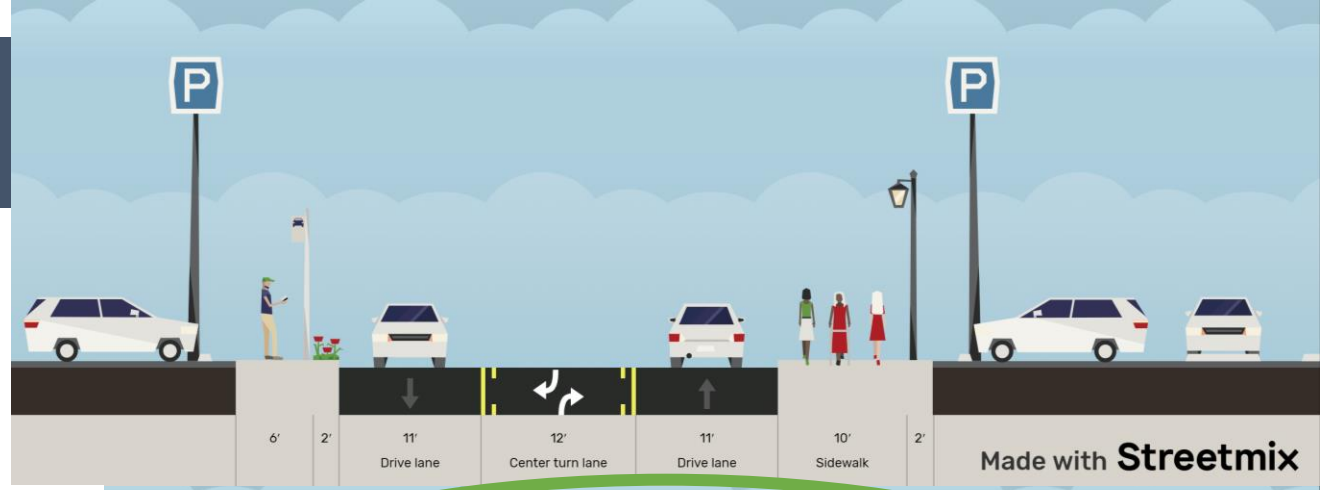


# Public Survey Results

## 1. Possible Cross-Sections



- Current layout - four lanes, no sidewalks
- Two lanes with landscaping and one sidewalk
- Two lanes, a center turn lane, and one sidewalk
- Two lanes, a center turn lane, and two sidewalks

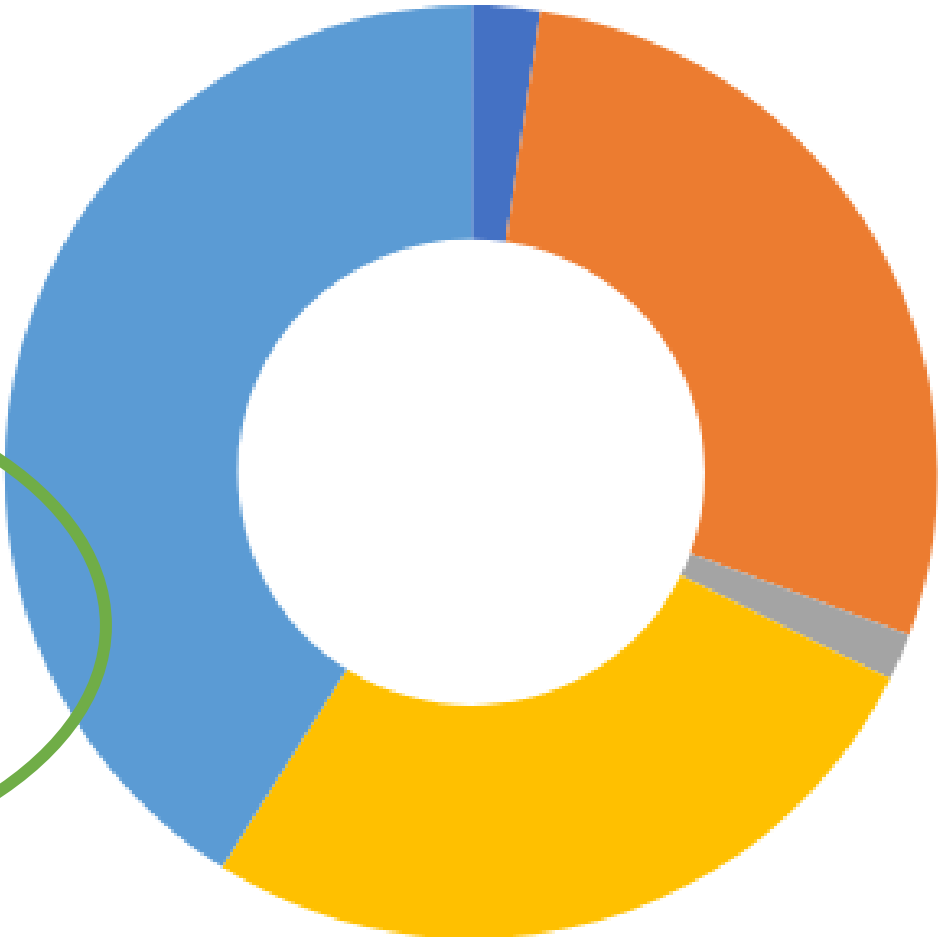




# Public Survey Results

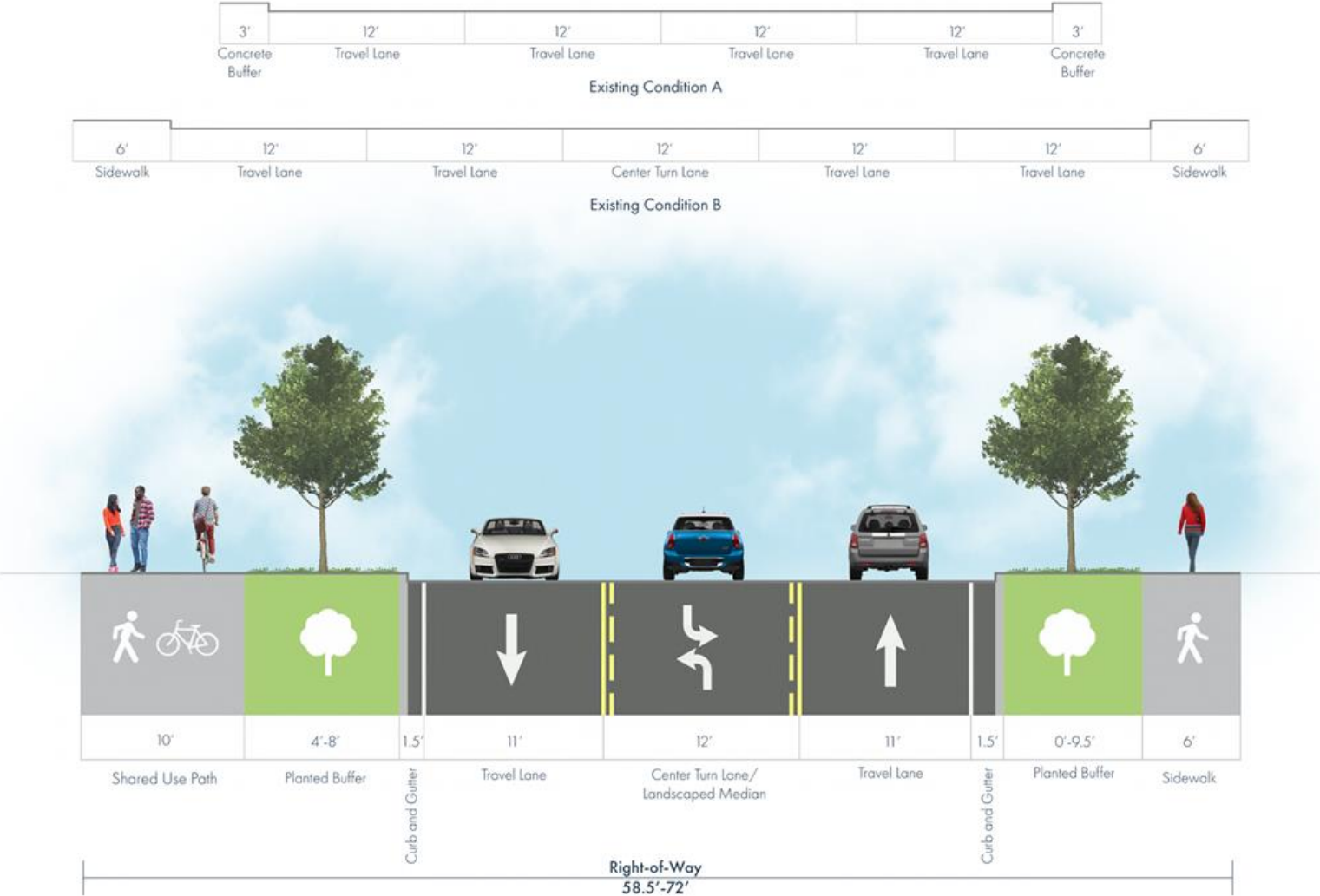


3. Possible Crosswalks



- Standard
- Continental
- Dashed
- Zebra
- Ladder

# Proposed Cross-Section





# Proposed Plan

Signal Mast Arms & Pedestrian Upgrades Recommended from ITS/Signal Study



SEGMENT 1

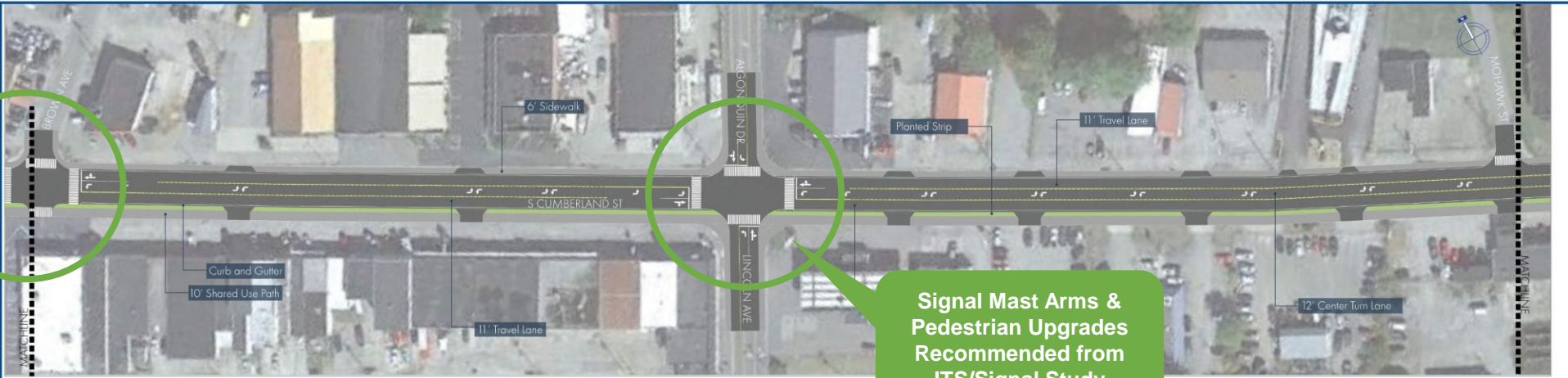
Signal Mast Arms & Pedestrian Upgrades Recommended from ITS/Signal Study



SEGMENT 2

# Proposed Plan

Signal Mast Arms & Pedestrian Upgrades Recommended from ITS/Signal Study



SEGMENT 3

Signal Mast Arms & Pedestrian Upgrades Recommended from ITS/Signal Study




SEGMENT 4



# Let's Find Funding

SR343 ITS Traffic Signal Coordination  
and Complete Street Project  
with respect to US Census Tracts  
1001

**CITY OF MORRISTOWN, TN  
GRANT APPLICATION**



**SR343 COMPLETE STREETS & ITS TRAFFIC  
SIGNAL COORDINATION PROJECT**

**Rebuilding American Infrastructure with Sustainability  
and Equity (RAISE) Discretionary Grant Program**

*Application Deadline is April 14, 2022  
Submission is through [Grants.gov](https://www.grants.gov).*

# RAISE Grant Application

- Total distance of project is about 3.70 miles in length
- Within US Census Tracts 1001, 1002, 1003, 1004
  - Census Tracts 1001, 1003, and 1004 are Areas of Persistent Poverty
  - Census Tracts 1001, 1002, 1003, and 1004 are listed as Historically Disadvantaged Communities
  - Census Tract 1003 is listed as an Opportunity Zone

Total Grant Project is \$23,430,325.32. (100% RAISE Funds)

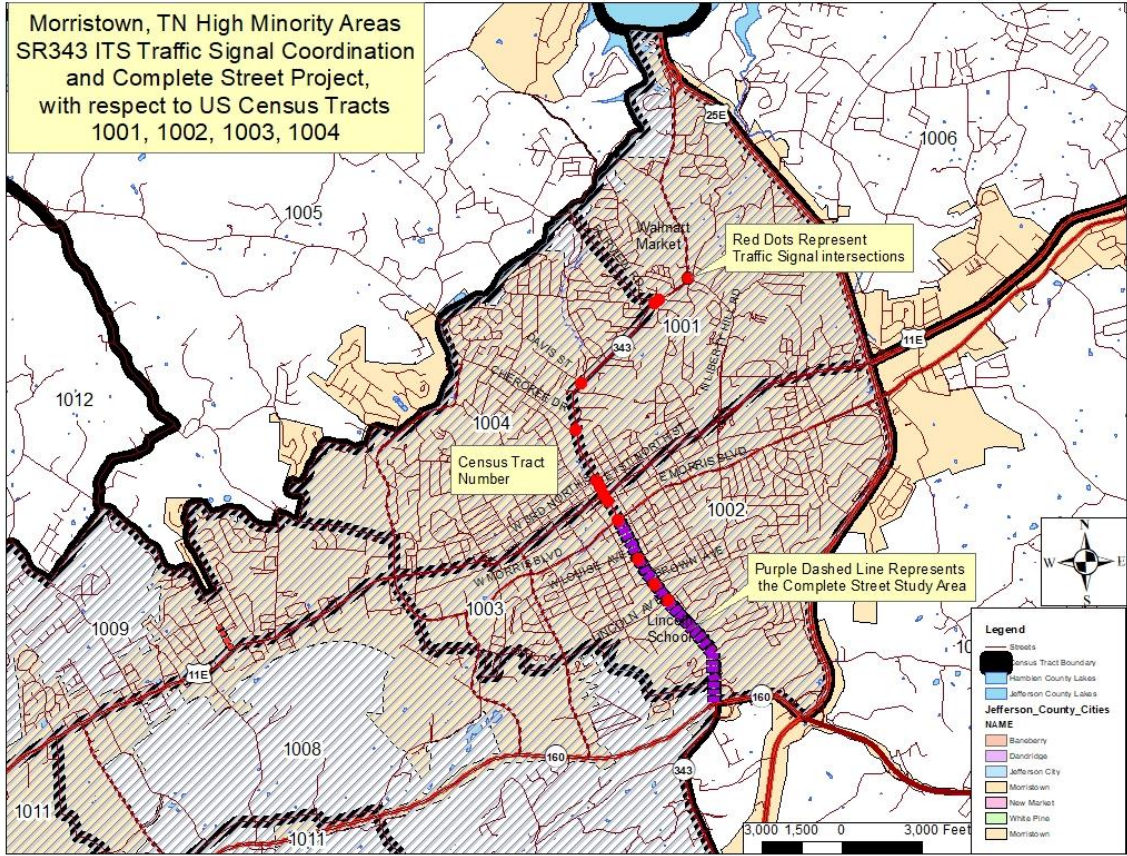
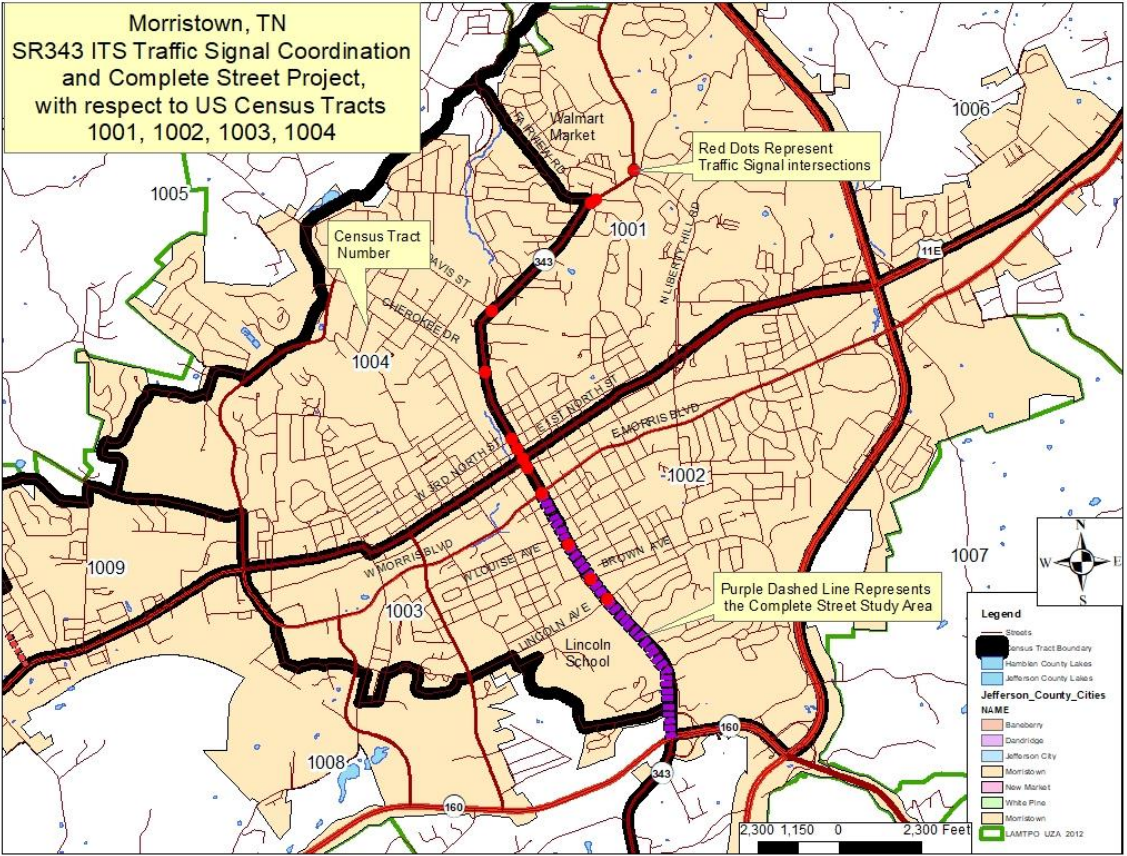
- This is a RURAL project, by RAISE grant guidelines

# Portion applied for

- Distance of approximately 1.60 miles in length
- From US Hwy 11E/ SR34/ E-W Morris Blvd to SR160
- Predominately a 4-lane highway, to be turned into a 3-lane highway with a 10-foot multi-use path and a sidewalk on the other side of roadway
- Currently, approximately 1 mile of this roadway does not have any sidewalks
- By reducing the number of lanes from 4 to 3 will make it consistent with the other sections of SR343 in town



# Area Map and High Minority Areas





# Current and What Could Be



# Grant Process

- When a DOT Discretionary Grant comes out, make sure you read and answer EVERYTHING within the NOFO (Notice of Funding Opportunity)
- Grant is Very DATA DRIVEN
  - May be able to get “Bonus Points”, if you qualify
    - Areas of Persistent Poverty
    - Historically Disadvantaged Communities
    - Opportunity Zones
  - Support Letters from local governing agencies, state officials, state and federal representatives/ congressmen, other interest groups
  - Applications are submitted through [grants.gov](https://grants.gov)



# Where do we go from here

- Received RAISE Grant award in August 2022
- Since project is along a state route, was able to get TDOT to handle the project
- Working with TDOT and FHWA to finalize the US DOT Agreement” for the Project
- TDOT has requested for Advanced Construction for the PE phases
- Anticipate the Construction phase to start Spring 2026.

# Questions

**Troy J Ebbert**

Planning Supervisor, Region 1

[Troy.J.Ebbert@tn.gov](mailto:Troy.J.Ebbert@tn.gov)

**Chris Kirby, PE, PMP**

Principal - CDM Smith

[kirbync@cdmsmith.com](mailto:kirbync@cdmsmith.com)

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Planning Specialist Advanced | Region 1

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**Richard DesGroseilliers, GISP, MTPO**

**Coordinator**

[richd@mymorristown.com](mailto:richd@mymorristown.com)