

East Hanover Avenue Corridor Study

Morris County,
New Jersey

Technical Meeting #2 Alternative Analysis Results

January 2012



One Team. Infinite Solutions



Stantec

- I. Future No Build Condition**
- II. Presentation of Alternatives**
- III. Discussion of Alternatives**





I. Future No Build Condition

- A. Background Traffic Growth**
- B. Anticipated Developments**
- C. Vehicle Trip Generation**
- D. Pedestrian/Bicycle Trip Generation**
- E. Crash Analysis Results**
- F. Summary of Needs**

A. Background Growth Rates

- 2015: Estimated Improvement Completion Date
(2% Per Year Between 2011 and 2015)
- 2035: 20-Year Horizon Design Year
(0.5% Per Year Between 2015 and 2035)
- **No-Build Condition:** Background traffic growth + planned and potential developments.
- **Build Condition:** Background traffic growth + development site traffic, with improvements.

B. Anticipated Developments

Location	Description	Time Frame
The American Rd	60 Condominium/Townhouse Units	2015
The American Rd	20,790 SF Office 48,510 SF Warehouse	2015
East Hanover Ave – Across from Mennen Arena	100,000 SF Shopping Center	2035
East Hanover Ave – Northwest Corner of Horse Hill Rd	90,000 SF ShopRite Center	2015
Horse Hill Rd	78 Residential Condominium/Townhomes	2015
East Hanover Ave – Northeast Corner of Horse Hill Rd	20,000 SF Office	2015
East Hanover Ave – Northwest Corner of Ridgedale Ave	125,000 SF Home Improvement Store	2015
Whippany Road	Bell Labs Redevelopment (2,000 Employees)	2015

C. Vehicle Trip Generation

Site	AM Peak Hour Trips	PM Peak Hour Trips
60 Condominium/Townhouse Units	26	31
20,790 SF Office 48,510 SF Warehouse	47	47
100,000 SF Shopping Center	154	636
90,000 SF ShopRite Center	145	593
78 Residential Condominium/Townhomes	34	41
20,000 SF Office	31	30
125,000 SF Home Improvement Store	158	296
Bell Labs Redevelopment (2,000 Employees)	219	200
Total	814	1874

D. Pedestrian and Bicycle Trip Generation

Site	Ped AM	Bike AM	Ped PM	Bike PM
100,000 SF Shopping Center	10	1	38	2
90,000 SF ShopRite Center	4	1	36	2
20,000 SF Office	2	0	2	0
125,000 SF Home Improvement Store	10	1	18	1

Based on information contained in FHWA *Compendium of Pedestrian Trip Generation Data in the United States* (1994)

- East Hanover Corridor (January 2008 – June 2011)
 - 192 Total Crashes
 - Rear-End = 76; Right Angle = 38; Side Swipe = 30
 - 95% Occurred Between 6:00 AM and 9:00 PM
 - 82% Occurred on Dry Pavement

- Right Angle Crashes
 - 23 of 38 Occurred at Driveways
 - 10 at LukOil, 4 at ACME, 1 at Citgo

E. Crash Analysis Summary

Crash Type	Speedwell Ave	The American Rd	MLK/Horse Hill	Monroe	Ridgedale	Library Drive	Whippany Rd
Rear End	16	4	12	2	13	1	8
Right-Angle	14	0	5	4	6	0	1
Side Swipe	9	1	2	1	6	1	1
Fixed Object	0	2	0	0	1	2	3
Head On/Angular	1	0	2	0	2	1	0
Left Turn	1	0	1	0	2	0	0
Pedacyclist	1	0	1	0	0	1	0
Other	0	0	1	0	1	0	0
Animal	0	1	0	0	0	0	0
Backing	0	0	1	0	0	0	0
Pedestrian	1	0	0	0	0	0	0

- Reduce queuing at study area intersections.
- Improve operations to LOS D or better.
- Eliminate split-phasing along East Hanover Ave.
- Reduce rear-end, side swipe, and right-angle crashes.
- Reduce number of driveways located in close proximity to signalized intersections.
- Improve pedestrian, bicycle, and transit connectivity to cultural resources and redevelopment sites.



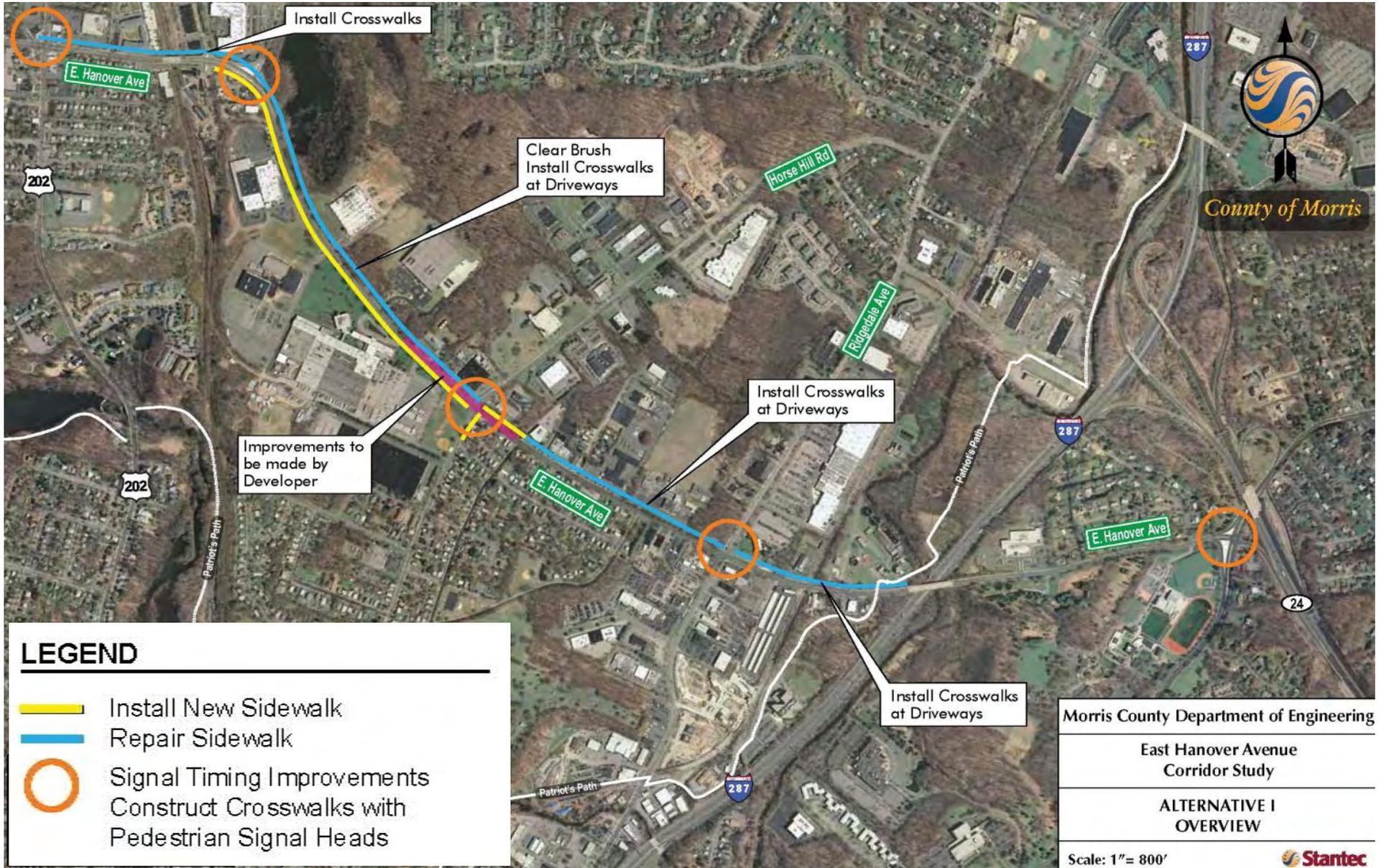
II. Presentation of Alternatives

- A. Land Use/Zoning Control**
- B. Alternative 1**
- C. Alternative 2**
- D. Alternative 3**
- E. Operational Comparison**
- F. Recommendation**
- G. Implementation**

A. Land Use/Zoning Control

- Currently proposed redevelopment would generate high number of PM and Saturday peak hour trips.
- Consider less-intensive uses:
 - Research/Manufacturing
 - Residential
 - Office
- Governor's Draft Strategic Plan for Economic Growth
 - Industry Clusters – Green Industry
 - Develop sustainable communities with a variety of land uses
- Could not be implemented alone – existing issues need to be addressed.

B. Alternative 1: Overview

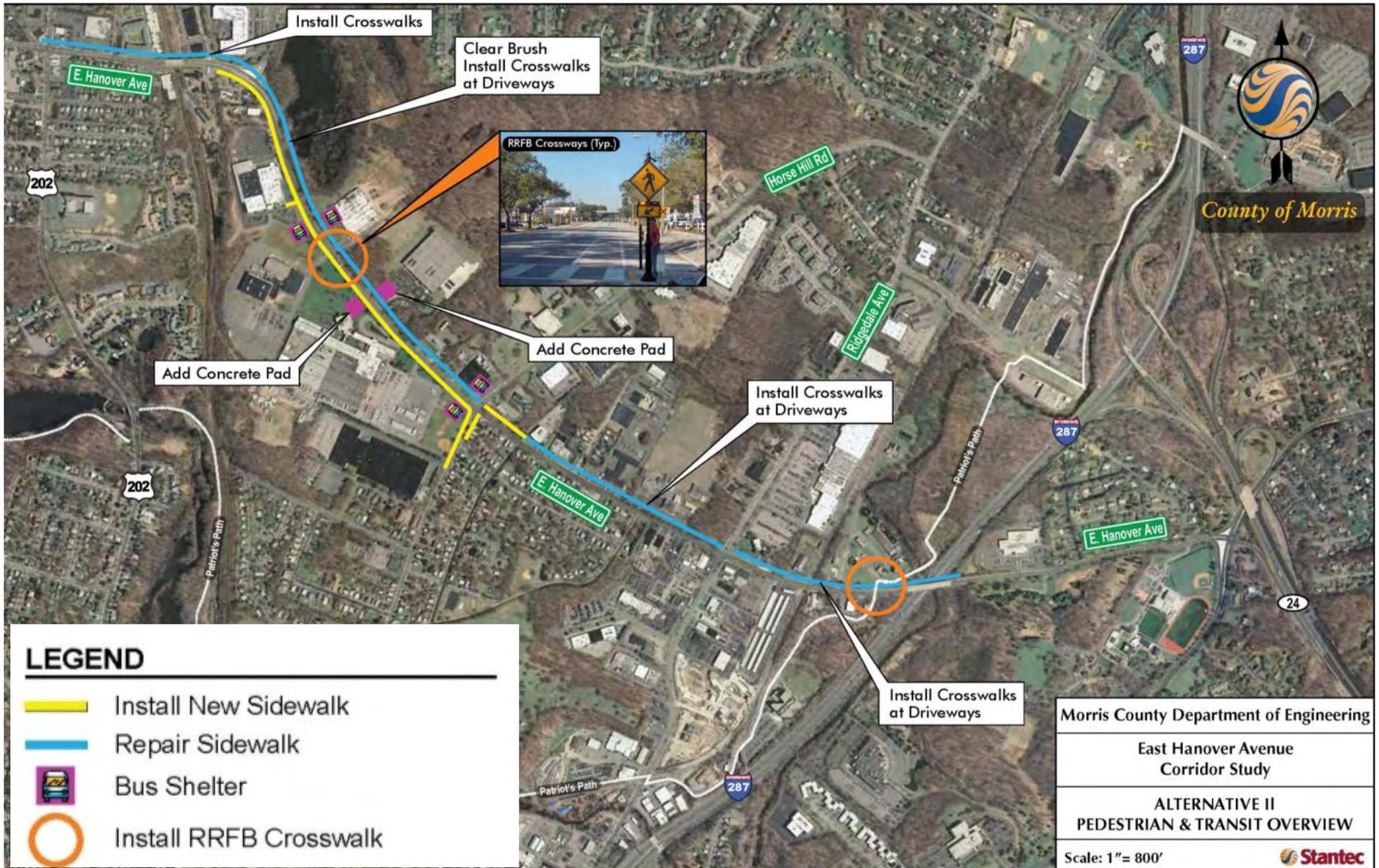


B. Alternative 1: Evaluation

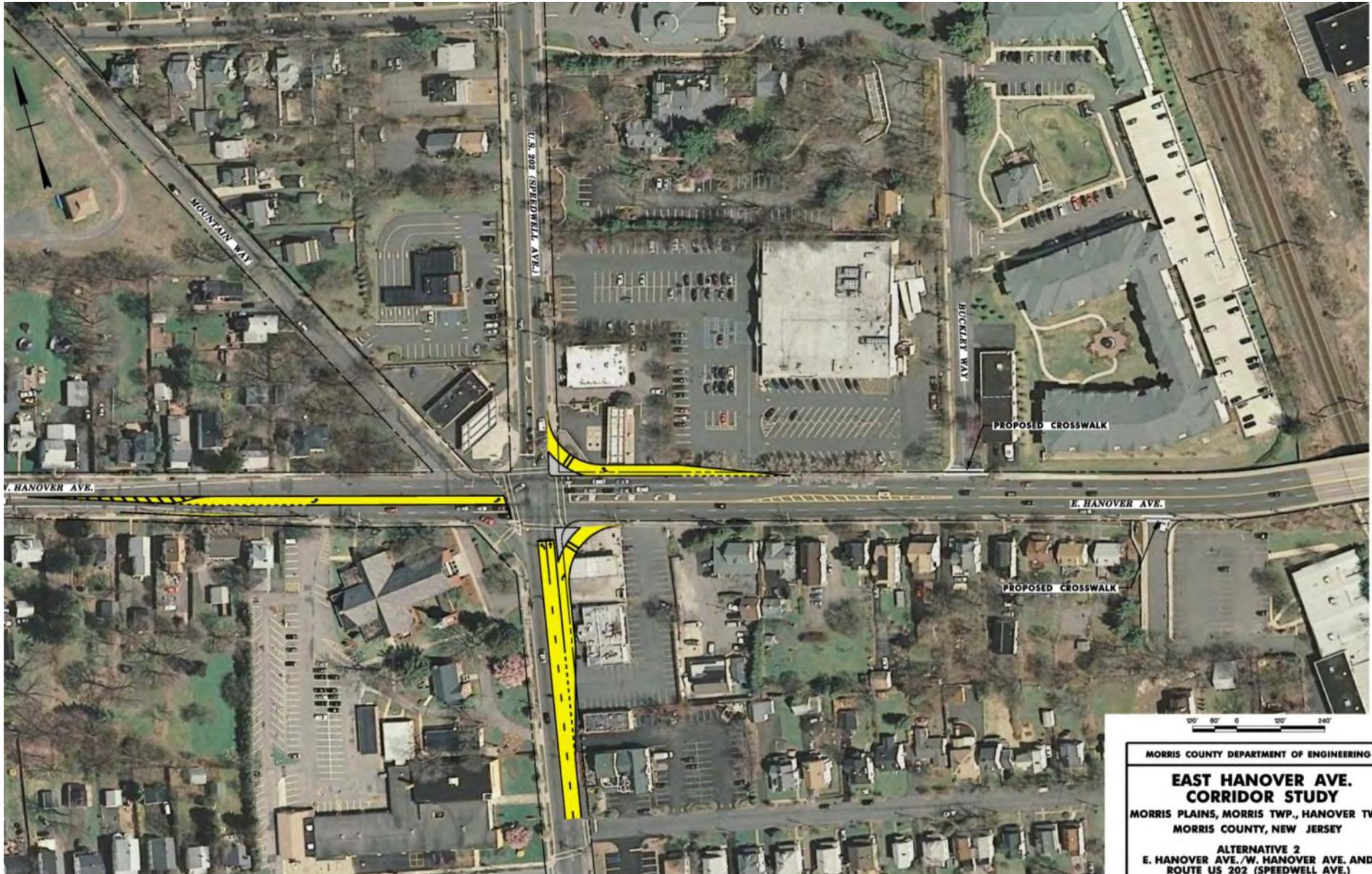
Advantages	Disadvantages
Closes gaps in sidewalks along the north side of the Corridor.	Does not reduce queuing at Speedwell Ave (US 202) or Ridgedale Ave.
Provides improved pedestrian treatment at intersections.	19 movements would operate at LOS E or F in 2015.
Reduces the AM peak hour Queue at Whippany Road.	Does not provide additional connections to Mennen Arena.
Utilizes existing infrastructure (no widening required).	Does not address all existing operational issues.
Lowest cost.	No bicycle facilities provided.
	Does not eliminate split-phase operation at Ridgedale Ave.
	Transit facilities are not improved.

- Total Cost: \$270,000
- **NOT RECOMMENDED FOR FURTHER CONSIDERATION.**

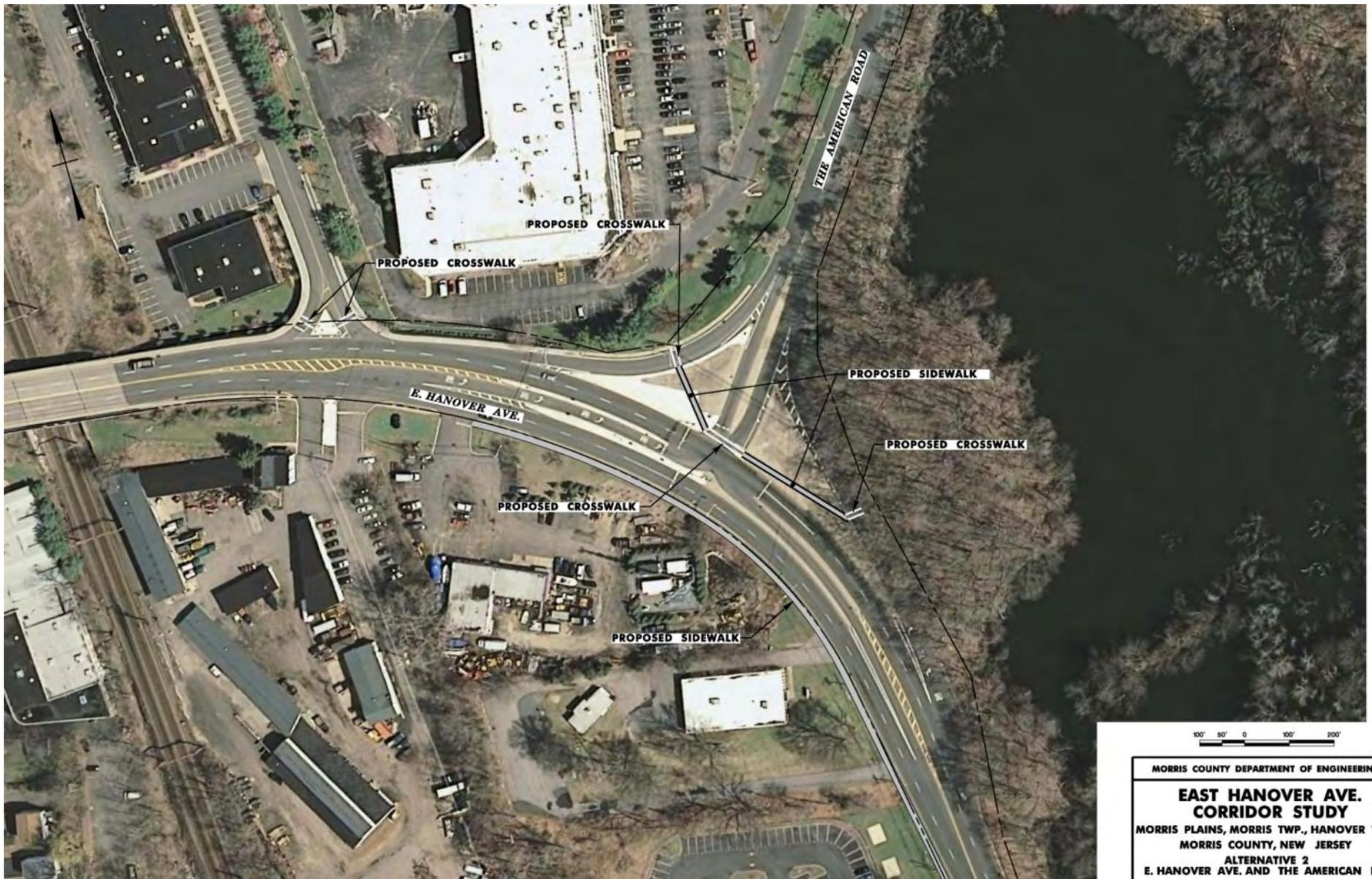
C. Alternative 2: Overview



C. Alternative 2: Speedwell Ave



C. Alternative 2: The American Rd



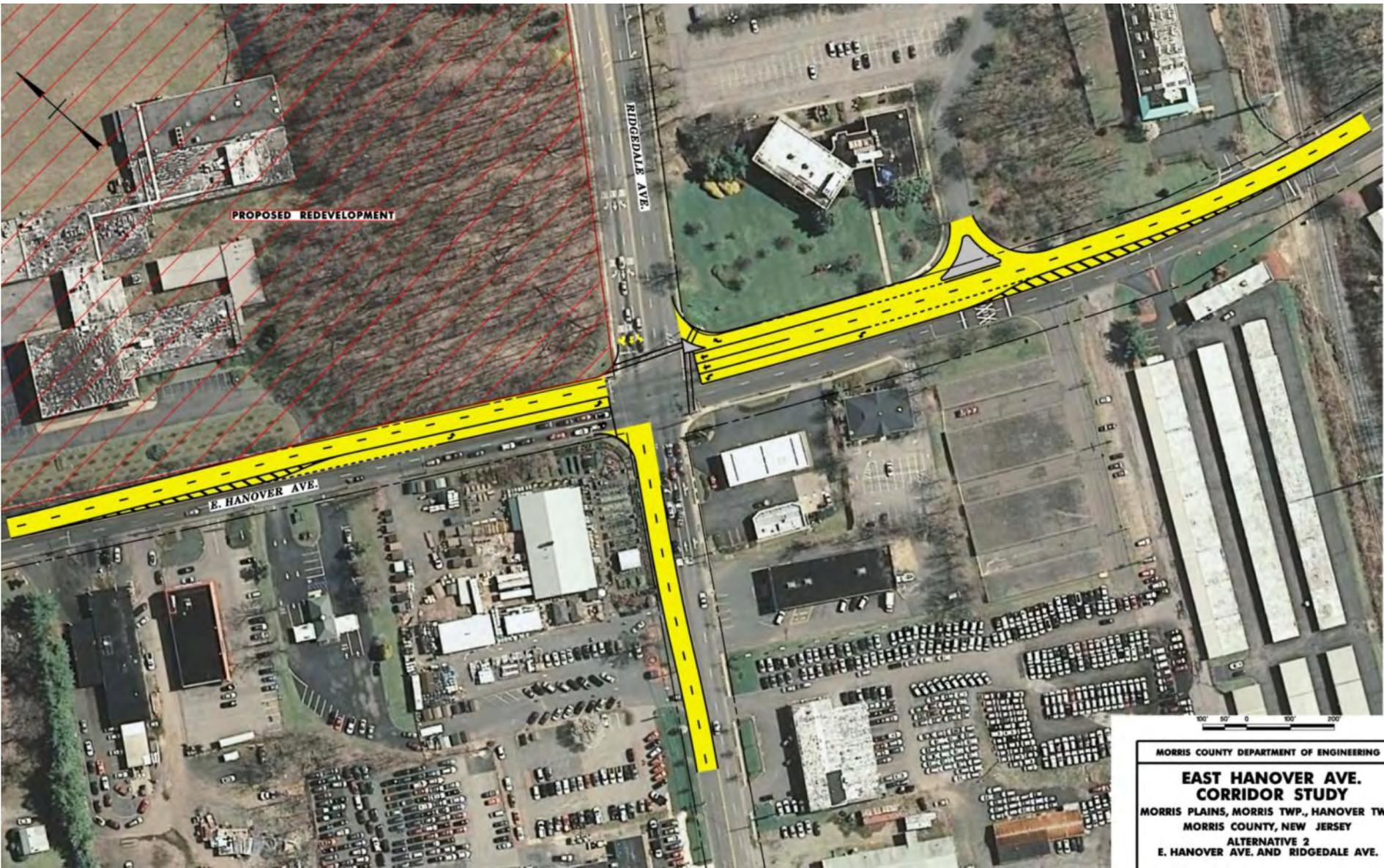
C. Alternative 2: MLK/Horse Hill



C. Alternative 2: Monroe St



C. Alternative 2: Ridgedale Ave



C. Alternative 2: Evaluation

Advantages	Disadvantages
Closes gaps in sidewalks along the north side of the Corridor.	5 movements would operate at LOS E or F in 2015.
Provides improved pedestrian treatment at intersections and at midblock crossings.	Queuing still experienced at Ridgedale Ave and Speedwell Ave.
Provides pedestrian connection to Mennen Arena.	No bicycle facilities provided.
Reduces queuing and improves operations at some study area intersections.	
Provides improved transit amenities.	



- Total Cost: \$2.2 Million (Excluding ROW)
- **RECOMMENDED FOR CONSIDERATION IF ZONING CONTROLS ARE ENACTED**

D. Alternative 3: Overview



D. Alternative 3: Speedwell Ave

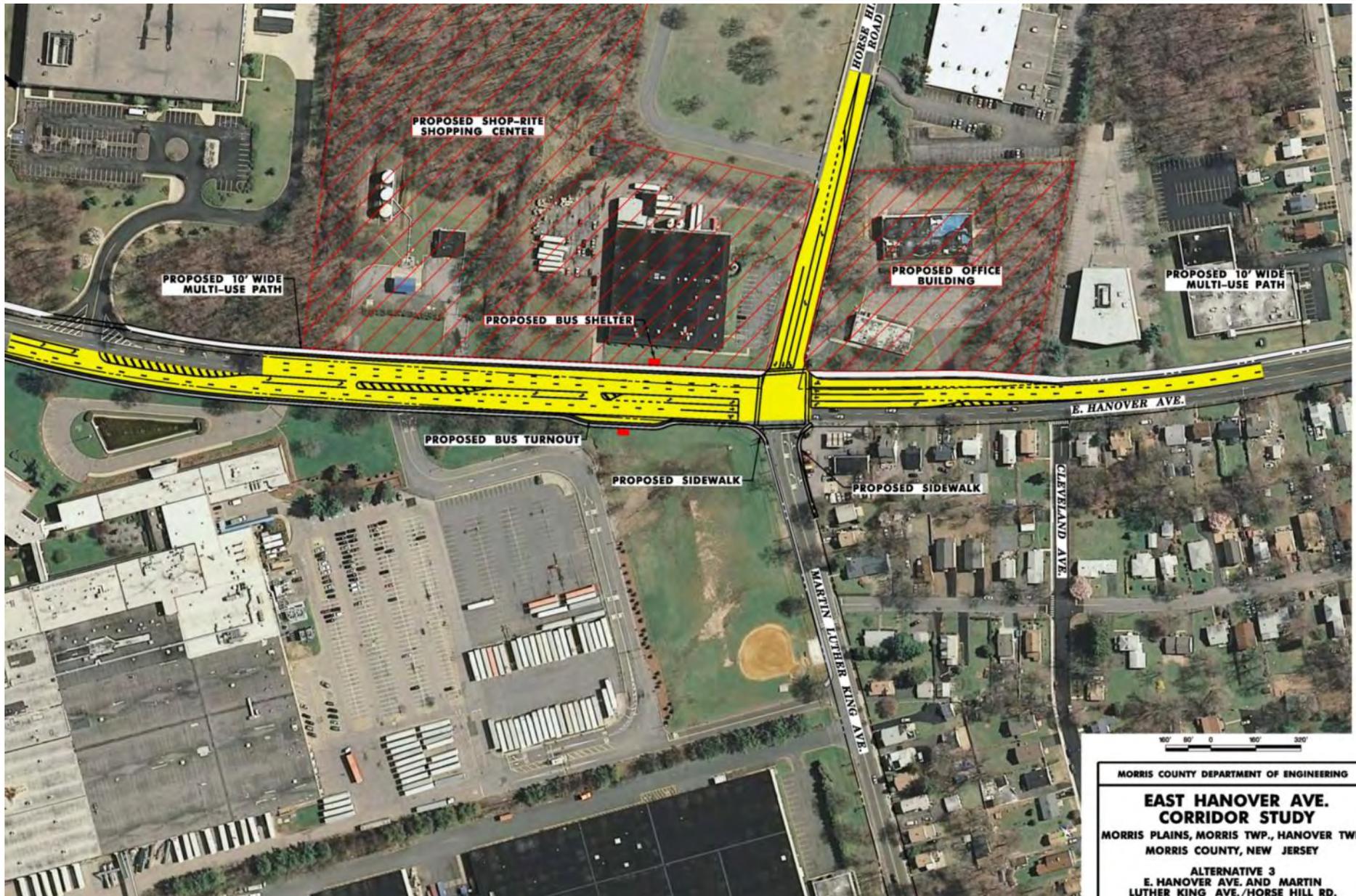


MORRIS COUNTY DEPARTMENT OF ENGINEERING
**EAST HANOVER AVE.
CORRIDOR STUDY**
MORRIS PLAINS, MORRIS TWP., HANOVER TWP.
MORRIS COUNTY, NEW JERSEY
ALTERNATIVE 3
E. HANOVER AVE. /W/HANOVER AVE. AND
ROUTE US 202 (SPEEDWELL AVE.)

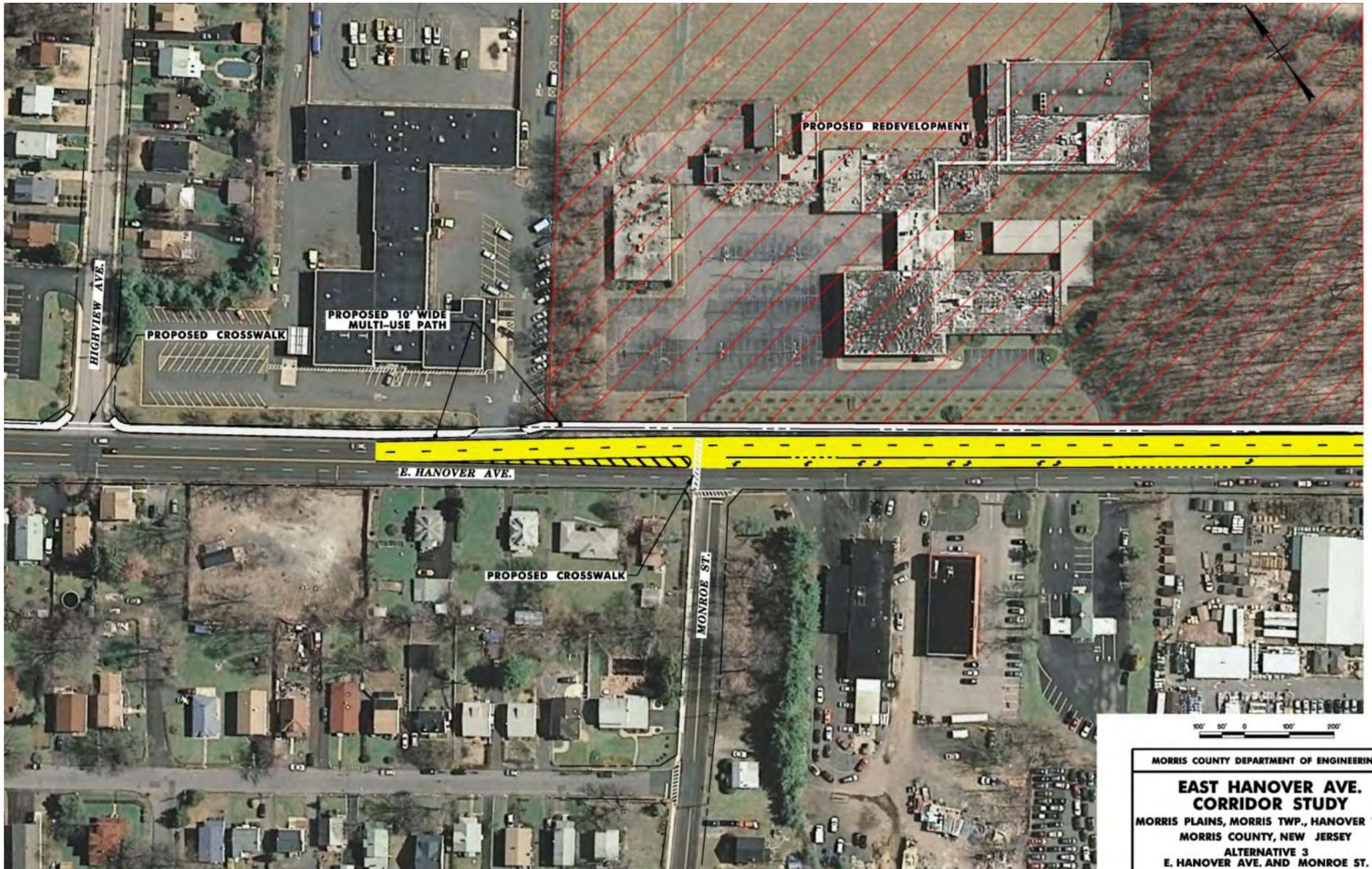
D. Alternative 3: The American Rd



D. Alternative 3: MLK/Horse Hill



D. Alternative 3: Monroe St



D. Alternative 3: Ridgedale Ave



D. Alternative 3: Whippany Rd



D. Alternative 3: Evaluation

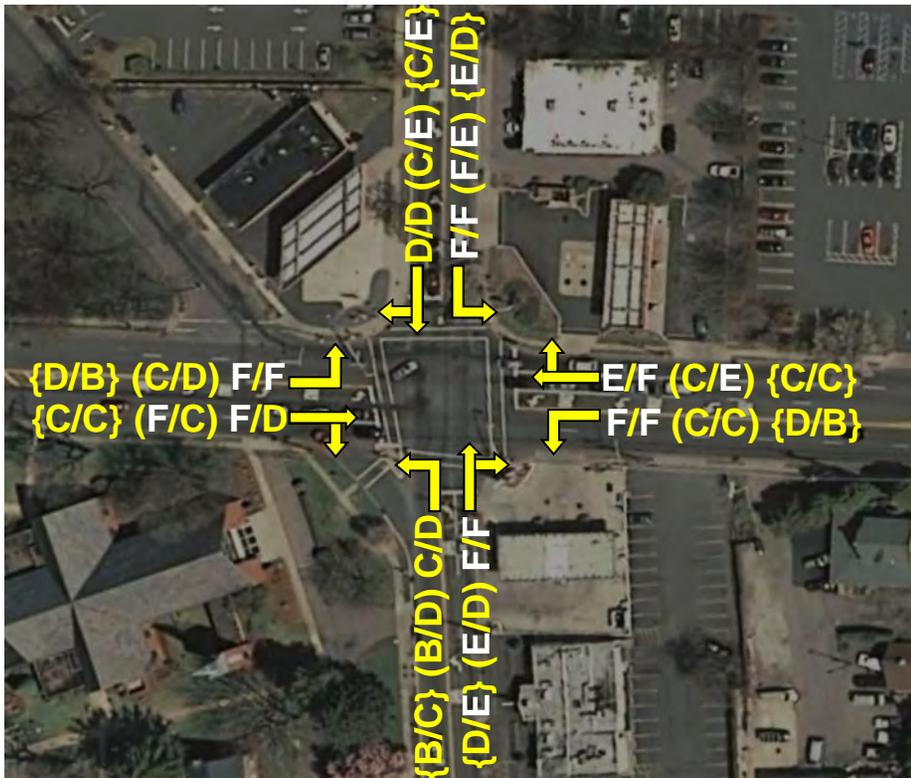
Advantages	Disadvantages
Provides bicycle and pedestrian paths connecting all cultural resources and redevelopment areas.	Highest cost – requires most ROW.
Provides improved bus stops that allow buses to pull out of traffic flow.	Minor queuing still experienced at Speedwell Ave.
Significant queue reductions.	
All study area intersections operate at LOS D or better in 2015.	
Provides improved transit amenities.	

- Total Cost: \$3.8 Million (Excluding ROW)



- **RECOMMENDED FOR CONSIDERATION IF NO ZONING CONTROLS ARE IMPLEMENTED.**

E. Operational Comparison



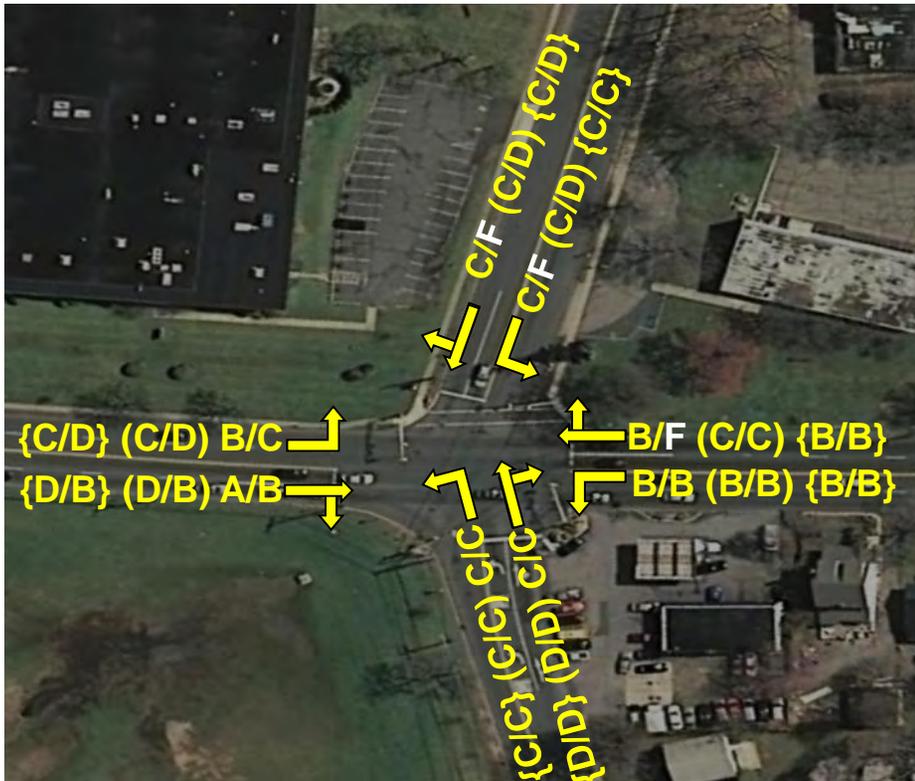
**E. Hanover Ave and
Speedwell Ave (US 202)**



**E. Hanover Ave and
The American Rd**

**AM/PM – 2035 No Build LOS
(AM/PM) – 2035 Alt 2 LOS
{AM/PM} – 2035 Alt 3 LOS**

E. Operational Comparison



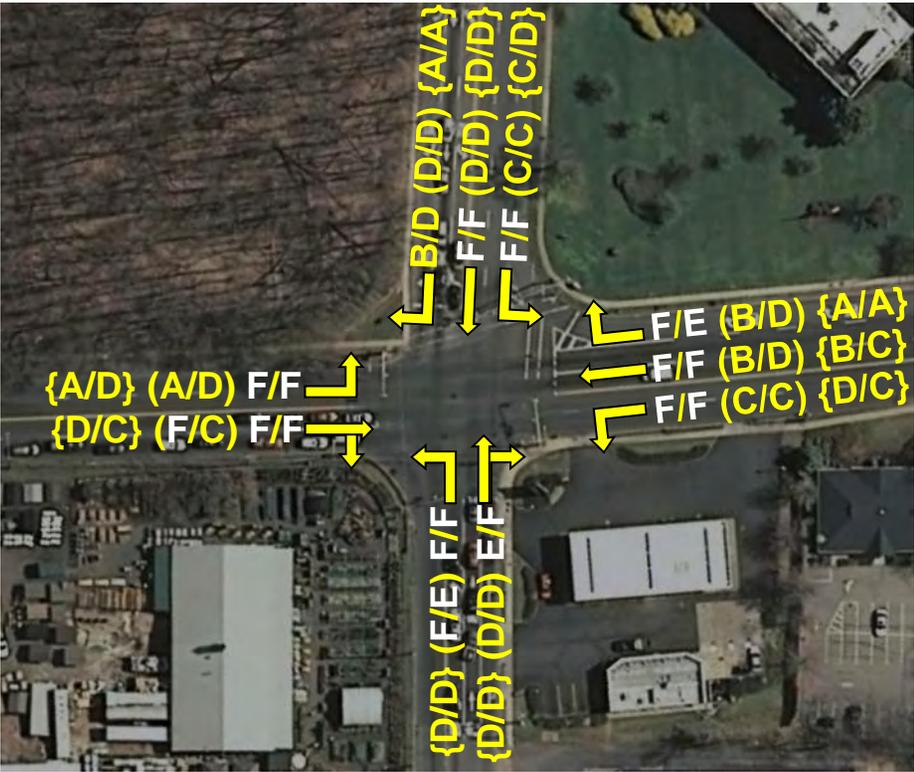
**E. Hanover Ave and
MLK Ave/Horse Hill Rd**



**E. Hanover Ave and
Monroe St**

**AM/PM – 2035 No Build LOS
(AM/PM) – 2035 Alt 2 LOS
{AM/PM} – 2035 Alt 3 LOS**

E. Operational Comparison



E. Hanover Ave and Ridgedale Ave

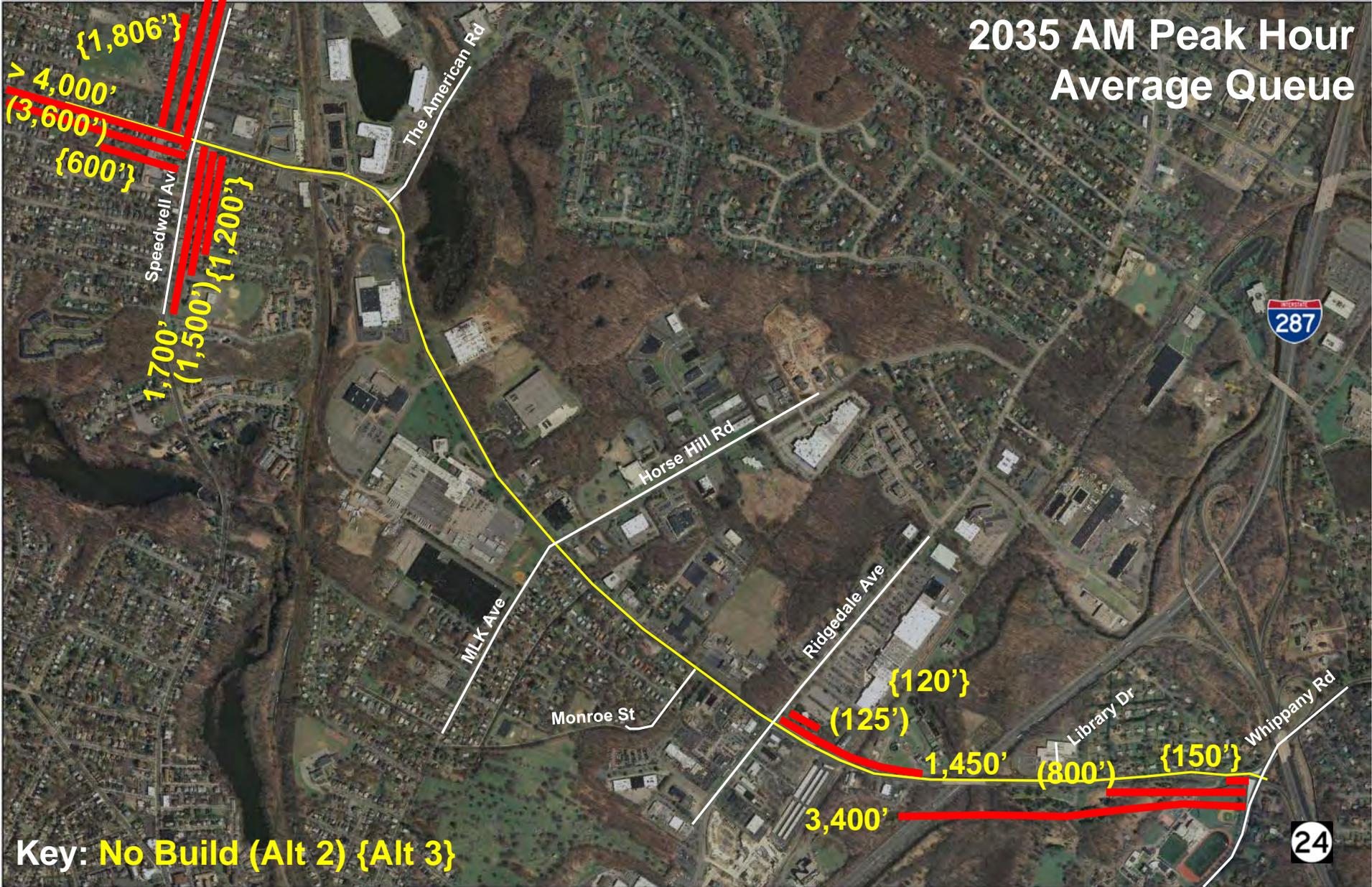


E. Hanover Ave and Whippany Rd

AM/PM – 2035 No Build LOS
(AM/PM) – 2035 Alt 2 LOS
{AM/PM} – 2035 Alt 3 LOS

E. Operational Comparison

2035 AM Peak Hour Average Queue



E. Operational Comparison

2035 PM Peak Hour Queuing



F. Recommendation

/ = Need Partially Met, X = Need Fully Met

Need	Alt 1	Alt 2	Alt 3
Reduce queuing at the Speedwell Avenue, Ridgedale Avenue, and Whippany Road intersections.	/	/	X
Provide LOS D or better for all study area intersections in the 2015 Build condition.			X
Improve existing pedestrian facilities to provide a continuous pedestrian route along the Corridor.	X	X	X
Provide pedestrian and bicycle connections to existing cultural resources.		/	X
Reduce the number of driveways that are close to signalized intersections.		X	X
Eliminate split-phase timing at intersections.		X	X
Improve safety along the Corridor by providing pedestrian and bicycle facilities, separating movements and providing a more cohesive environment.	/	X	X
Improve transit amenities along the Corridor to provide improved service to proposed redevelopment sites.		X	X
Provide pedestrian and bicycle connections to the proposed retail sites.	/	/	X
Order of Magnitude Cost Estimate	\$270,000	\$2.2 Million	\$3.8 Million

F. Recommendation

- Alternative 2: in conjunction with zoning controls.
- Alternative 3: Recommended based on current development plans.
- Mix and match alternative improvements:
 - Example: Apply multi-use path to Alternative 2, or apply sidewalk improvements to Alternative 3.



G. Implementation

Improvement	Implementation Strategy	Timeline
Multi-Use Path	<p>Phase 1: The American Road to Horse Hill Road (sections to be completed by ShopRite developer) and Whippany Road to Ridgedale Avenue</p> <p>Phase 2: Ridgedale Avenue to Horse Hill Road and YMCA extension (sections to be completed by developers).</p>	<p>Phase 1: 2012 – 2014 Phase 2: 2014 – 2016</p>
Proposed New Sidewalk Segments	<p>Phase 1: Martin Luther King Avenue extensions.</p> <p>Phase 2: South side of East Hanover Avenue between The American Road and Martin Luther King Avenue</p>	<p>Phase 1: 2012 – 2014 Phase 2: 2014 - 2020</p>
RRFB at Mennen Arena	Pursue with Phase 1 of Multi-Use Path	2012 - 2014
RRFB at Patriot's Path	Pursue with multi-use path.	2012 – 2014
Bus Shelters and Pads	Coordinate with NJ TRANSIT and developers.	2012 – 2015
Bus Pull-Outs	Coordinate with NJ TRANSIT and developers.	2015 – 2020

G. Implementation

Improvement	Implementation Strategy	Timeline
Speedwell Ave Intersection	Coordinate with DOT to implement. ROW acquisition is required.	2015 – 2018
Martin Luther King Avenue/Horse Hill Road Intersection	Constructed with funds from developer of ShopRite Center.	2012 – 2014 (Construct with proposed redevelopment)
Monroe Street	Pro-rate contribution from developer of Ridgedale corner site.	2013 – 2016 (Construct with proposed redevelopment)
Ridgedale Avenue	Pro-rate contribution from developer of Ridgedale corner site.	2013 – 2016 (Construct with proposed redevelopment)
Whippany Road	Coordinate with DOT to implement additional lane on ramp.	2015 – 2020 (Construct as needed)



III. QUESTIONS/COMMENTS and DISCUSSION