

2015 CORRIDOR MONITORING AND TRIGGERING REPORT

August 2016



TABLE OF CONTENTS

INTRODUCTION	1
MONITORING	
Land development.....	2
Traffic.....	8
Highway safety	12
Transit service	15
Project status	16
Other projects in the region.....	17
TRIGGERING	19
Assessment of monitored conditions	
Recommendations	
PUBLIC INVOLVEMENT	20
Activities during 2015	
Activities planned for 2016	
FIGURES	
Figure 1 – Major Development Plans / Rezonings Location Map.....	3
Figure 2 – Developer Contributions	5
Figure 3 – Traffic Growth Along US 40.....	8
Figure 4 – Transit Route Map.....	14
Figure 5 – Project Status	17
TABLES	
Table 1 – Major Development Plans / Rezonings Received and/or Reviewed During 2015	2
Table 2 – Average Daily Traffic	8
Table 3 – Signalized Intersection Level of Service Summary	9
Table 4 – Intersection Crash Data Summary.....	13

CONTACTS

Wilmington Area Planning Council
Dan Blevins
850 Library Avenue, Suite 100
Newark, Delaware 19711
dblevins@wilmapco.org

New Castle County
Owen Robatino
87 Reads Way
New Castle, Delaware 19720
ocrobatino@nccde.org

Delaware Department of Transportation
Mark Tudor
800 Bay Road
Dover, Delaware 19901
mark.tudor@state.de.us

Delaware Transit Corporation
Evan Horgan
119 Lower Beech Street, Suite 100
Wilmington, Delaware 19805-4440
Evan.Horgan@state.de.us

INTRODUCTION

The Route 40 Corridor Improvements Project was initiated by the Delaware Department of Transportation in partnership with New Castle County and WILMAPCO in September 1998. Completion of the first four steps of this project produced a community-supported 20-year transportation plan prepared under the direction of a Steering Committee composed of civic leaders, elected officials, and business interests. Technical support for plan development was provided by a project team, composed of the project partners' staffs and their planning and engineering consultants. The Route 40 Corridor 20-Year Transportation Plan (the Plan) was adopted on June 19, 2000.

The Plan addresses the conditions that are expected to result from projected growth in housing, employment, and traffic over 20 years. The Plan contains projects, separated into three phases (Phase I 2000-2007, Phase II 2008-2013, Phase III 2014-2020), that address projected transportation problems. By phasing projects over 20 years and using a monitoring and triggering mechanism, projects will be built only as conditions dictate, addressing one of the main goals of the Steering Committee.

The fifth and final step of the project, the implementation of the Plan recommendations, is now in its sixteenth year. This sixteenth annual Corridor Monitoring and Triggering Report is an essential component of this step. To assure that all projects in the Plan are implemented as conditions dictate—neither prior to the anticipated need, nor subject to unnecessary delay after need is identified—the Plan included an implementation strategy consisting of five components:

- Corridor preservation
- Monitoring
- Triggering
- Citizen involvement
- Project implementation

Citizen involvement is accomplished through a Corridor Monitoring Committee (CMC). Until 2008, this committee typically met three or four times each year with the project team to review conditions in the corridor. The CMC did not meet in 2015 due to funding constraints.

The monitoring efforts, which are summarized in this report, consider:

- Land development
- Traffic
- Corridor preservation
- Highway safety
- Transit service

- Project status
- Impact of completed projects
- Other projects in the region

Each of these factors is discussed in the following sections. The project team's assessment of these monitored conditions forms the basis for the triggering section of the report. Examples of triggering, as defined in the Plan, are listed below.

- Major land development activity would trigger immediate review of transportation needs: level of service implications and strategy, transit service needs or opportunities, safety concerns, and pedestrian and bicycle needs.
- Steady deterioration in level of service to D or worse would trigger a response in the form of strategies to stabilize/reduce demand (i.e. travel demand management measures or transit improvements) or increase multimodal capacity.
- Safety improvements recommended by the Hazard Elimination Program (HEP), a component of the Highway Safety Improvement Program, would trigger an evaluation by the project team of the compatibility of the proposed improvements with the Plan and of the need to make adjustments to the Plan.
- Transit service changes proposed by DTC would trigger an evaluation by the project team of any ancillary improvements needed to complement the service changes, such as sidewalks or shelters that should be advanced in the Plan's implementation.
- Transportation improvements that are not part of the Plan but that impact the corridor and are proposed for implementation would trigger an evaluation by the project team. The evaluation would focus on compatibility of the proposed improvements with the Plan and the need to make adjustments to the Plan.

Assessment of these potential changes may trigger one of the following options to best respond to the new conditions:

- Continue with a Plan project or projects as currently scheduled in the WILMAPCO Transportation Improvement Program (TIP) and/or DelDOT Capital Transportation Program (CTP).
- Move a project(s) forward in the TIP/CTP schedule and determine appropriate level of effort for design activities.
- Move a project(s) back into the out years of the TIP/CTP schedule.

MONITORING

Land Development

Site Review Team

Development activity is typically monitored through meetings of the site review team, which consists of representatives from DelDOT, the New Castle County Department of Land Use, and the Delaware Transit Corporation. Members of the Route 40 Project Team continue to review plans in the corridor for consistency with and impact to the Plan and provide comments to DelDOT and New Castle County. The team’s comments include recommendations in such areas as corridor preservation, access management, and cost-sharing opportunities.

Summary of Development Activity

During 2015, there were 16 new development plans (2 major/rezonings, 3 minor, and 11 resubdivision/other) submitted to New Castle County for review in the Route 40 corridor. This level of development activity

is more than the previous year. There was one new major plan submitted in 2015. Table 1 provides a description and status of the current major development proposals, as well as other previously-submitted major plans discussed during the year. Major development locations are shown in Figure 1.

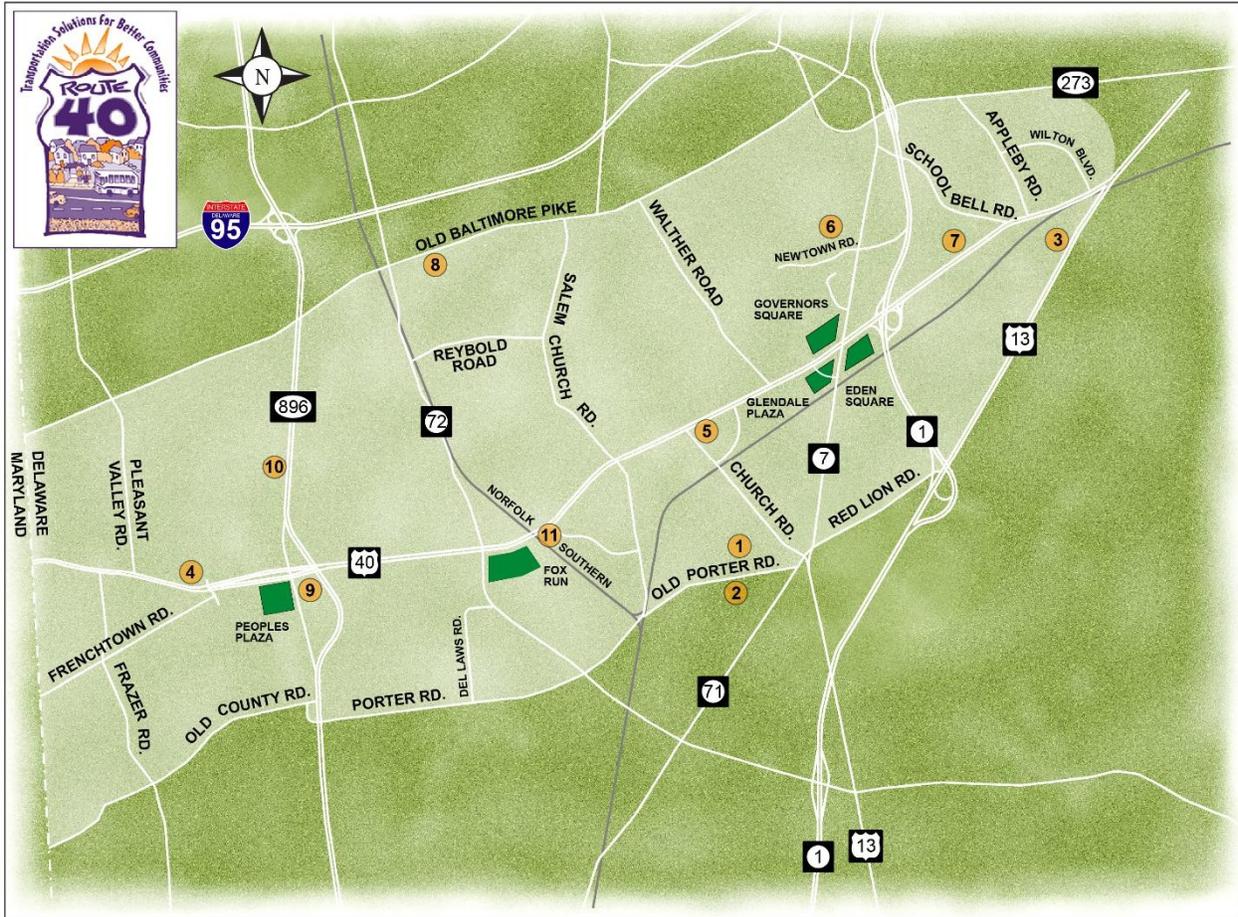
Review of 10 major developments proposed before 2015 continued this year. Among those plans, three (743 Pulaski Highway, Rockwood Parcel 1-A, and Bradford Pond) were recorded during 2015. Among the remaining 7 plans, four are in the record plan submittal stage and three are in the exploratory submittal plan review stage. Additional impacts of some significant developments on the Plan are as follows:

- At Wellington Commons, a new shopping center on the north side of US 40 near Brookmont Drive, additional retail space is planned.
- Construction for the next phase of Becks Woods Plaza continued in 2015.

Table 1. Major Development Plans/Rezonings Received and/or Reviewed During 2015

Site	Description	Remarks	New plan in 2015?
743 Pulaski Highway	Rezone property from NC6.5 to CR to construct a 2,000 SF building for general office use	Recorded	No
Rockwood Parcel 1-A	Remove 20 foot wide sanitary sewer easement and construct 45 apartment buildings with 438 units, 32 parking garages, and all necessary improvements	Recorded	No
Bradford Pond	Eliminate age restriction designation. This is a previously approved rezoning.	Recorded	No
Newtown Square	Demolish existing building to construct a 14,000 SF retail building, 2,500 SF bank with drive-thru, and a 6,200 SF restaurant and associated improvements	Record Submittal	No
Vista at Red Lion Section One	Rezone from S to ST to construct 279 age restricted townhouse units on 56.71 acres	Record Submittal	No
Vista at Red Lion Section Two	Rezone from S to ST to construct 290 single family units on 144.88 acres	Record Submittal	No
Troy Granite	Combine tax parcels 11-017.00-046 and 11-017.00-047 to construct a 7,000 SF showroom and 42,500 SF warehouse	Record Submittal	No
Old State Road Self Storage	Construct 29,700 SF of self-storage buildings and 600 SF office on 13.51 acres	Exploratory Submittal	No
Glasgow Commons	Proposed 308,500 SF shopping center and offices with associated improvements on 30.94 acres	Exploratory Submittal	No
La Grange Plaza	Rezone property to construct a 6,560 SF restaurant and 10,720 SF office/retail building on 5.25 acres.	Exploratory Submittal	No
Advance Auto Parts	Proposed construction of a 6,889 SF auto parts store.	Exploratory Submittal	Yes

Figure 1. Active Major Development Plans/Rezoning



- 1. Vista at Red Lion Section One
- 2. Vista at Red Lion Section Two
- 3. 339 Old State Road
- 4. La Grange Plaza
- 5. Rockwood Parcel 1-A
- 6. Newtown Square

- 7. 743 Pulaski Highway
- 8. Bradford Pond
- 9. Glasgow Commons
- 10. Troy Granite
- 11. Advance Auto Parts

Developer Agreements

Since 2000, there have been more than 400 applications submitted to New Castle County for developments in the Route 40 Corridor. In addition to those previously noted, more than 60 land development projects in the corridor have developer agreements with the State or County regarding transportation improvements in the corridor. These improvements range from sidewalks to widening of roadways, signal agreements and significant right-of-way dedication. New Castle County continues to work with DelDOT on a comprehensive tracking system for these agreements, which is used to coordinate private and DelDOT-sponsored roadway improvements. Developer contributions throughout the corridor are highlighted in Figure 2.

Any proposed development requiring a Level of Service (LOS) waiver from New Castle County must first have a Traffic Mitigation Agreement (TMA) negotiated with DelDOT. TMAs were implemented to provide an alternative for developers to reduce trip generation and provide transportation demand management measures. Developers are required to present primary and contingent trip reduction measures that could include alternative work hours, preferential parking for carpools/vanpools, bicycle storage, and parking management. There are four developments in the Route 40 Corridor that have TMAs with DelDOT: Lincoln Center, Springside Plaza, Astra Zeneca, and Gore.

TIS Waivers / Fair Share Contributions

In 2004, New Castle County amended its Unified Development Code (UDC) regarding Traffic Impact Study (TIS) Waivers. The UDC already enabled such waivers for developments where TISs had been done for changes in zoning. The modification allowed TIS Waivers for developments in Transportation Improvement Districts (TIDs) or similarly defined areas where sufficient prior traffic studies have been done. There is currently one operating TID in Delaware, Westown in Middletown. There are three additional TIDs in the process of creation and eleven additional locations identified in the Kent County Comprehensive Plan. A TIS Waiver involving a TID uses the adopted Regional Transportation Plan, rather than a TIS, to determine what transportation improvements should be the developer's responsibility. The developer may still be required to perform a Traffic Operational Analysis (TOA) to demonstrate DelDOT and County Level of Service (LOS) concurrency.

Within the Route 40 Corridor, 24 development plans have requested TIS Waivers for locations in a TID. By the end of 2015, TIS Waivers had been approved for 19 of them. Two developments did not require a TIS: Reserve at Becks Pond involved workforce housing, which is exempt from County concurrence; and Lighthouse Baptist Church where the nearby intersection had been recently improved. DelDOT also denied a TIS Waiver for Governors Square Commercial Center and required a TIS for Whitewood Village. Another development, Whittington Woods, completed a TIS instead of completing the waiver process.

Figure 2. Developer Contributions*



*Note: See legend on the following page.

Figure 2. Developer Contributions (cont.)

KEY	INTERSECTION / ROAD	DEVELOPMENTS
1	US 40/Walther Road	Meridian Crossing, Village of Fox Meadow, Glennwood Station, Rockwood Apartments, Governors Square II, River Walk, Barrett Run, Governors Field, Wilmington University
2	US 40/Scotland Drive	St. Andrews, St. Andrews Addition
3	US 40/School Bell Road	Wal-Mart, School Bell Crossing Shopping Center
4	US 40/Perch Creek Drive	Kohl's, LaGrange
5	US 40/Frazer Road	St. Margaret of Scotland, Meritage
6	US 40/Church Road/Wellington Drive	Meridian Crossing, Wellington Commons
7	US 40/Appleby Road	Wal-Mart, Dover Federal Credit Union
8	US 13/SR 71	Red Lion Mini-Storage
9	US 13/Schafer Boulevard	Mallard Pointe
10	US 13/Saienni Boulevard/Mallard Road	Mallard Pointe, Bayview Manor II, Chaddwyck, Jillians Way
11	US 13/Federal School Lane	Chaddwyck
12	US 13/Bear-Tybouts Road/Hamburg Road	Blue Diamond Recreation Park, Chaddwyck
13	SR 896/Corporate Boulevard/GBC Drive	Glasgow Business Community; Parcel 2C-2, Pencader Corp. Center Parcel 32, Parcel 33 and Gore
14	SR 72/Mabel Lane	Caravel Academy
15	SR 71/SR 72	Willow Oak Farms, Red Lion Chase, Sunset Meadows, Red Lion Christian Academy, Sunset Run, Village of Red Lion Creek, Estates of Red Lion, Jester Crossing, Peoples Industrial Park
16	SR 71/Church Road	Meridian Crossing, Wellington Commons
17	SR 7/SR 71	Love of Christ Church, Corbitt Estates, Estates of Red Lion, Peoples Industrial Park
18	SR 7/School Bell Road	School Bell Apartments
19	Songsmith Drive/Governors Square access	Calvarese Farms, Governors Square Commercial
20	Old Baltimore Pike/Otts Chapel Road/Pleasant Valley Road	Deerborne Woods, Lighthouse Baptist Church
21	Old Baltimore Pike/Martha Washington Boulevard/Norwegian Woods Drive	Norwegian Woods, Hershberger Apartments
22	Old Baltimore Pike/Iron Hill Road	Preserve at Lafayette Hill
23	Glasgow Avenue/Old County Road	Meritage
24	Corporate Boulevard/Executive Drive	Pencader Corporate Center; Parcel 30A
25	Salem Church Road/Reybold Road	AstraZeneca, Whitewood Village
26	Carvel Drive traffic calming	Calvarese Farms
27	Church Road	Rockwood Apartments, Meridian Crossing
28	GBC Drive (Dusk Run Road), SR 896 to SR 72	Gore
29	Frazer Road	Meritage (frontage shoulder)
30	George Williams Way	YMCA, Delaware State Police, Bristol Place
31	Old County Road	Estates at Long Branch (frontage, extending west to Maryland border)
32	Old Porter Road curve realignment	Meridian Crossing
33	Rockwood Drive	Rockwood Apartments
34	Scotland Drive extension, St. Andrews Road to Porter Road	St. Andrews Addition
35	Old Porter Road	Vista at Red Lion
36	Reybold Road	Whitewood Village
37	Route 896/Old Coochs Bridge Road/Four Seasons Parkway	Thirteen Stars Housing and Gore
38	Newtown Trail	Whittington Woods
39	US 40/Glasgow Drive	Salem Center
40	SR 72/Reybold Road	Whitewood Village
41	US 40/Brookmont Drive	Wellington Commons
42	US 40/Pleasant Valley Road	Pleasant Valley Crossing, Royal Farms
43	US 40/Becks Woods Drive	Becks Woods Plaza, St. Andrews Addition
44	US 40/SR 72	Fox Run Shopping Center, Belltown Business Center
45	US 40/PGA Blvd	Belltown Business Center
46	US 40/Peoples Plaza	LaGrange
47	US 40/Buckley Blvd	Americinn, Goodyear, Gordon Furniture
48	US 40/Biddle Avenue	Springside Plaza
49	Old Baltimore Pike/SR 273	Comfort Suites, Promenade at Christiana
50	SR 896/Porter Road	Gore, Colony at Summit Bridge
51	SR 72/GBC Drive	Gore
52	Old Baltimore Pike/Hanna Drive	Astra Zeneca
53	US 40/LaGrange Avenue/Glasgow Park	YMCA, Delaware State Police, New Castle County
54	US 40/N392A	Deer Park Plaza
55	US 40/SR 7	Governors Square Commercial, Newtown Square
56	SR 7/Glendale Connector/Old Hamburg Road	Governors Square Commercial
57	US 13/Langollen Blvd	Old State Road Hotel, Old State Road Self Storage
58	SR 7/Songsmith Drive South	Governors Square Commercial, Lincoln Center
59	Old State Road	Old State Road Hotel, Old State Road Self Storage
60	SR 72/Rue Madora	Fox Run Business Center
61	SR 72/Del Laws Road	Fox Run Business Center
62	SR 72/Old Baltimore Pike	Royal Farms
63	US 40 Widening	Governors Square II, Wilmington University, Rockwood Apartments
64	Church Road/Rockwood Road	Steeple Glen, Rockwood Apartments

Traffic

To monitor traffic growth, full-day traffic counts were conducted on five segments of Route 40 using automatic tube counters. These segment counts were used to monitor overall trends, as opposed to intersection counts, which were used to measure levels of service. The segment counts were compared with the traffic information utilized during development of the Plan, which was based on counts conducted primarily in 1998 and 1999, as well as counts conducted for Corridor Monitoring and Triggering Reports during 2000 through 2015. Average daily traffic (ADT) volumes along Route 40 are summarized in Table 2.

The Route 40 Plan anticipated that at the five locations shown in Table 2, traffic would increase by an average of about 1.8 percent per year through 2020. Current data indicate growth rates less than what was originally anticipated (See Figure 3). The volumes at these five locations are summarized in Table 2. All of the locations experienced less traffic than predicted, ranging from 13.6 to 29.6 percent below the 2015 projections. As a result, the general growth trend through 2015 is about 0.8 percent annually.

To compare current levels of service for intersections along US 40 to the levels of service used during the Plan development process, the project team conducted intersection counts during weekday peak hours at nine signalized intersections on US 40 in November 2015. Signalized intersections that were not counted in 2015 contain the same LOS values from 2014 and are denoted by a footnote in Table 3. Unsignalized intersections were not counted because no improvements are included at these intersections in the Plan. It is assumed that any future signalization of these intersections, whether required due to land development or traffic growth, will have to meet intersection signalization warrants as required by DelDOT.

The traffic volumes collected at the signalized intersections were analyzed in a manner consistent with the traffic impact study process used by New Castle County and DelDOT. The results of the level of service (LOS) analysis are summarized in Table 3. As indicated, one intersection had minor degradation in levels of service from 2014 and two experienced slight improvements.

- The intersection at US 40 and Governor's Square remained at LOS C in the AM peak and LOS E in the PM peak for the second consecutive year. Based on discussions with the CMC, the project team will conduct updated peak hour counts and field observations in September 2016 to determine if there has been a change in traffic operations. The project team will also determine if any potential short-term or long-term improvements could be implemented to address the issue.
- The intersection of US 40 and Glasgow Avenue north remained at LOS D in the AM peak for the third consecutive year and remained at LOS D in the PM peak for the eighth consecutive year.
- The intersection of US 40 and Glasgow Avenue south remained at LOS D in the AM peak for the sixth consecutive year and remained at LOS C in the PM peak for the third consecutive year.
- The intersection of US 40 and LaGrange Avenue returned to LOS C in the AM peak after improving to LOS B in 2014 and improved to LOS B in the PM peak following two consecutive years at LOS C.
- The intersection of US 40 and SR 72 remained at LOS D in the AM peak for the second consecutive year and remained at LOS D in the PM peak for the sixth consecutive year.
- The intersection of US 40 and Salem Church/Porter Road remained at LOS C in the AM peak for the third consecutive year and remained at LOS D in the PM peak for the third consecutive year.
- The intersection of US 40 and Church Road returned to LOS C in the AM peak following two consecutive years at LOS D and remained at LOS C in the PM peak for the sixth consecutive year.

Table 2. Average Daily Traffic

Location	Plan volumes (1998/1999)	2000 counts	2014 counts	Projected 2015 volumes	Actual 2015 volumes	Percentage over (under) projected	2020 forecast
East of Perch Creek Drive	34,000	29,000	37,204	44,818	37,484	-16.4%	48,000
West of SR 72	29,000	27,000	33,377	45,227	31,835	-29.6%	50,000
West of Salem Church Road	32,000	34,000	36,787	47,455	35,783	-24.6%	52,000
West of Walther Road	41,000	43,000	45,303	54,136	45,880	-15.3%	58,000
West of Wilton Boulevard	27,000	27,000	23,078	31,636	27,342	-13.6%	33,000

Figure 3. Traffic Growth Along US 40 (average of five count locations)

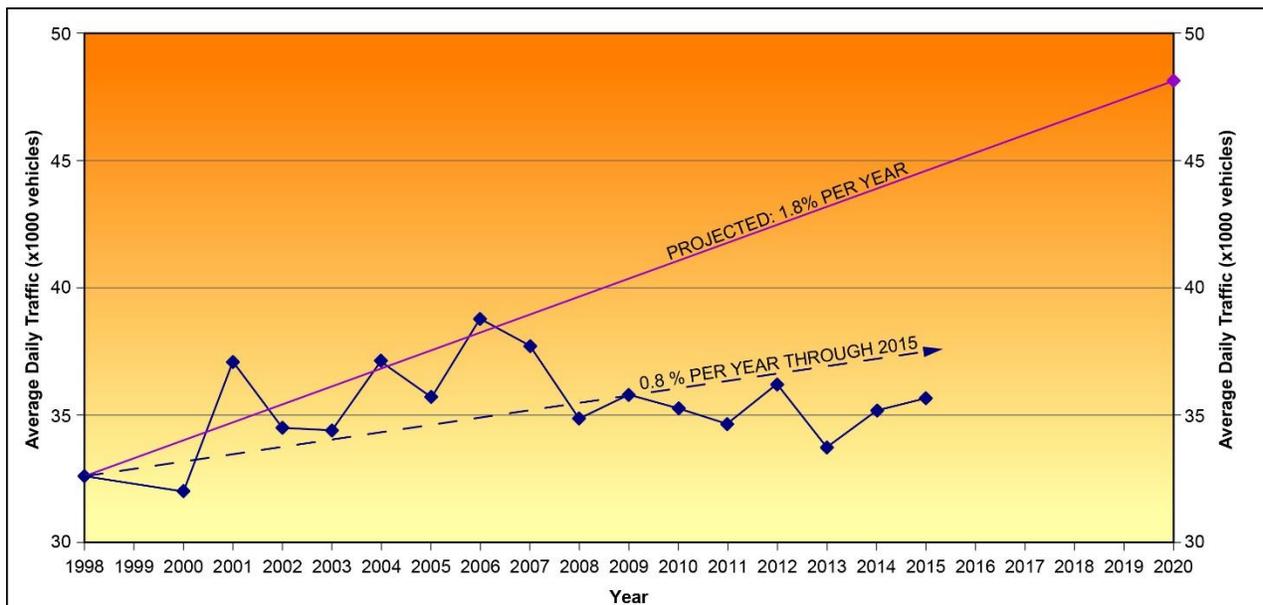


Table 3. Signalized Intersection Level of Service Summary

INTERSECTION	PEAK HOUR LEVEL OF SERVICE									
	Base (1998/1999)		2000		2014		2015		2020 without additional Plan improvements	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Frazer Road ⁴	-	-	-	-	B	B	B	B	F	C
Pleasant Valley Road ¹	C	C	C	C	C	C	C	C	E	F
Perch Creek Drive	-	-	B	A	B	B	B	B	C	C
Biddle Avenue north ^{2,4}	-	-	-	-	A	A	A	A	-	-
Biddle Avenue south ^{2,4}	-	-	-	-	B	B	B	B	-	-
Peoples Plaza north ⁴	B	C	A	B	A	A	A	A	A	A
Peoples Plaza south ⁴	B	B	B	C	B	C	B	C	C	D
Glasgow Avenue north	C	C	C	C	D	D	D	D	C	E
Glasgow Avenue south	C	D	B	C	D	C	D	C	D	D
SR 896 ⁴	D	D	D	E	D	D	D	D	F	F
LaGrange Avenue	-	-	-	-	B	C	Ⓢ	Ⓢ	B	C
SR 72	D	D	E	E	D	D	D	D	E	E
Scotland Drive ⁴	C	B	B	B	C	C	C	C	C	C
Becks Woods Drive ^{3,4}	-	-	-	-	B	B	B	B	-	-
Salem Church/Porter Road	C	C	D	D	C	D	C	D	D	F
Glasgow Drive ⁴	-	-	-	-	B	B	B	B	-	-
Brookmont Drive ⁴	B	B	B	B	B	B	B	B	B	B
Church Road	D	C	D	C	D	C	Ⓢ	C	C	C
Walther Road	C	D	D	D	D	D	D	D	C	C
Governors Square ⁴	B	C	C	C	C	E	C	E	C	D
SR 7/Eden Square ⁴	E	D	E	D	D	C	D	C	D	E
SR 1SB Ramps ⁴	A	A	A	A	A	A	A	A	B	C
SR 1NB Ramps ⁴	B	B	B	A	A	B	A	B	E	C
Buckley Boulevard ⁴	-	-	B	B	C	C	C	C	B	C
School Bell Road ⁴	B	B	C	A	A	A	A	A	A	A
Wilton Boulevard ⁴	B	B	C	C	B	C	B	C	B	C
US 13 ⁴	D	B	C	B	B	D	B	D	F	F

Note: Red denotes a worse level of service than 2014; green denotes improvement in level of service over 2014.

¹ Entrance to Royal Farms (south leg) was completed in 2012.

² Traffic signal was installed at US 40 and Biddle Avenue in 2013

³ Traffic signal was installed at US 40 and Becks Woods Drive in 2013.

⁴ These intersections were not counted during 2015; numbers reflect count data from 2014

To assess the validity of the plan beyond its original horizon year of 2020, an analysis of projected 2030 traffic volumes was conducted in 2009. DeIDOT's travel demand model was used to forecast traffic along Route 40 and side streets. These future daily volumes were converted to peak hour turning movement forecasts. A level of service analysis was then conducted to determine how well the improvements in the Plan will perform in 2030.

Due to lower than expected traffic growth, most of the improvements proposed in the Plan will not only continue to work in 2020, but will accommodate forecast 2030 traffic as well. Plan improvements at the following locations are expected to be sufficient for 2030 traffic:

- US 13 interchange (to replace an existing signal)
- Wilton Boulevard
- School Bell Road
- Buckley Boulevard
- SR 1 interchange
- SR 7 interchange (to replace existing signals at SR 7, Eden Square, and the Governors Square/Glendale Plaza entrance)
- Walther Road
- Church Road
- Brookmont Drive
- Glasgow Drive
- Scotland Drive
- SR 72
- Lagrange Avenue/Glasgow Park
- SR 896 interchange (to replace an existing signal)
- Peoples Plaza (two intersections)
- Perch Creek Drive

There are some locations where, due to changes in traffic patterns, Plan improvements are not forecast to be sufficient to address anticipated traffic in 2030. These locations include the following.

- **Salem Church Road/Porter Road:** Due to higher side street volumes than originally anticipated in the Plan, Route 40 may need to be widened to four through lanes in each direction, rather than the three noted in the Plan, to maintain level of service D. However, the intersection will barely drop below level of service D with three through lanes in each direction.
- **Glasgow Avenue (two intersections):** Due to higher volumes than originally anticipated in the Plan, Route 40 may need to be widened to three

through lanes in each direction to maintain level of service D. The Aikens Tavern historic district abuts three corners of the intersection, making widening along the existing alignment challenging. Alternative solutions to reduce or accommodate future traffic demand should be considered.

- **Pleasant Valley Road:** Due to higher volumes than originally anticipated in the Plan, as well as the addition of a south leg to the intersection, Route 40 may need to be widened to three through lanes in each direction to maintain level of service D. An additional eastbound left turn lane may also be needed by 2030.
- **Frazer Road:** Due to higher volumes than originally anticipated in the Plan, Route 40 may need to be widened to three eastbound through lanes to maintain level of service D.

Because most of the additional improvements needed by 2030 are in the portion of the corridor west of SR 896, strategies to reduce travel demand should be considered either in addition to or in lieu of roadway widening. Transit could also play an increased role in addressing future traffic congestion challenges in this area.

Highway Safety

Review of Conditions in 2015

Each year, the project team coordinates with DeIDOT Traffic Safety to request the annual crash report summary for the Route 40 Corridor. In addition, to reviewing the annual summary, the project team coordinates with DeIDOT's statewide Highway Safety Improvement Program (HSIP) to identify any locations that are currently under study. DeIDOT's statewide HSIP includes several categories of transportation safety throughout the state. One of those categories is the Hazard Elimination Program (HEP), which involves reviewing statewide crash rates and selecting approximately 15 sites for study. The 2015 HEP list included two sites within the Route 40 corridor, Site L and Site O. The recommendations from the HEP review team and status of implementation are summarized below:

Site L – Church Road from 0.24 miles south of US 40 to US 40.

- The HEP committee recommends signing and striping improvements as well as tree trimming improvements to increase corner sight distance for northbound and southbound right turns at Church Road/Wellington Drive.

- Upgrade intersection lighting at US 40 at Church Road/Wellington Drive, including continuous lighting farther west through Brookmont Drive.
- Assess feasibility of modifying southbound Wellington Drive “signal-controlled” right-turn movement to reduce pedestrian conflicts.

Site O – Appleby Road from Winburne Drive to SR 273.

- SR 273 at Appleby Road Improvements project (T200900704) is located within Site O and is scheduled to PS&E in spring 2016. Improvements will include the following:
 - Installing a second eastbound left-turn lane at SR 273 at Airport Road
 - Installing a third westbound through lane between Airport Road and Wedgefield Drive
 - Converting the eastbound and westbound left-turning phases at SR 273 at Appleby Road to protected-only
 - Reducing the length of the northbound right-turn lane to begin just north of the Community Plaza driveway
- Additional improvements recommended by the HEP committee include installing signing improvements and increasing the yellow times at SR 273 at Appleby Road per DeIDOT guidelines.

The goal of this report with respect to safety is to identify intersections where reported crash totals from the annual summary increased significantly (>50%) compared to the previous five-year average, identify the possible reasons for those increases, and consider those sites for detailed study and improvement recommendations.

Table 4 shows the number of reported crashes annually at selected intersections from 2011-2015. The 2015 crash totals were compared to the previous five year average to determine if there was an increase of greater than 50 percent. It is important to note that these totals are approximated based on raw crash data summaries and not the actual reports. The number of crashes is determined based on the DeIDOT mile posts at a particular intersection along US 40 and includes all crashes listed within 0.10 miles of the intersection. These numbers may vary upon review of the detailed crash reports.

Upon reviewing the crash data, there are three intersection where the 2015 reported crash total is more than 50 percent higher than the previous five year average. Based on the reported crash totals for 2015, detailed crash reports will be requested and reviewed at the following intersection to determine potential crash patterns:

- Route 40 at Peoples Plaza
- Route 40 at Glasgow Avenue
- Route 40 at SR 896
- Route 40 at Brookmont Drive

After reviewing the crash data, any crash patterns identified will be evaluated to determine the need for further study.

Pedestrian and Bicycle Safety

During 2015 in the Route 40 corridor, a total of 11 reported crashes involved pedestrians. Six of the 11 reported crashes resulted in personal injuries and five resulted in a fatality. All of the fatalities resulted from the pedestrian crossing at an unmarked location at night. Four of the five fatal crashes occurred at an unlit location and in three of the crashes the pedestrian was intoxicated. Of the six pedestrian crashes resulting in personal injuries, three occurred at dark unlit locations, two occurred during daylight hours, and one occurred at night at a lit location. The two crashes that occurred during daylight hours resulted from driver error; all remaining pedestrian crashes resulted from pedestrian error.

Previous Safety Studies

Based on the reported crash totals for 2014, detailed crash reports were requested and reviewed at the following intersections.

- **Route 40 at Brookmont Drive** – A total of 18 crashes were reported between January 2014 and December 2014, including thirteen (72 percent) rear end crashes, 4 angle crashes, and one sideswipe crash. Four crashes resulted in injuries, one of which was fatal, and four crashes involved alcohol. The fatality occurred when a westbound vehicle, operated by an intoxicated driver, ran a red light and struck an eastbound left-turning vehicle, operated by a driver who was under the influence of drugs, causing fatal injuries to the passenger in the left-turning vehicle. Two rear end crashes resulted from a stopped school bus, but the bus was not involved in either crash. No significant crash patterns were identified and no additional studies are recommended. HEP committee recommendations for Site L include lighting

improvements that would extend through Brookmont Drive.

- **Route 40 at Glasgow Drive** – A total of 16 crashes were reported between January 2014 and December 2014, including ten (63 percent) rear end crashes and six angle crashes, five of which involved a southbound left-turning vehicle. All of the southbound left-turn crashes resulted from vehicles on US 40 running the red light; and in one case the driver stated the sun prevented him from seeing the red indication. Five crashes resulted in injuries and one crash involved alcohol. No significant crash patterns were identified. Crash

totals at this intersection continue to decrease and in 2015 a total of 10 crashes were reported, which is 6 (38%) fewer than the previous year.

- **Route 40 at SR 7** – A total of 56 crashes were reported between January 2014 and December 2014, including forty-six (82 percent) rear end crashes, four sideswipe crashes, three single vehicle crashes, 2 head-on crashes, and one angle crash. Twelve crashes (21 percent) resulted in injuries. No significant crash patterns were identified in the reports. No additional studies are recommended.

Table 4. Intersection Crash Data Summary

INTERSECTION	NUMBER OF REPORTED CRASHES				
	2011	2012	2013	2014	2015
Frazer Road	9	7	6	5	9
Pleasant Valley Road	20	17	21	17	25
Perch Creek Drive ¹	12	8	14	11	10
Peoples Plaza	8	7	10	7	12
Glasgow Avenue	29	29	33	27	30
SR 896	28	38	29	30	53
LaGrange Avenue	10	6	16	11	13
SR 72	34	34	42	27	51
Scotland Drive	21	21	26	30	29
Becks Woods Drive ⁴	-	-	9	7	6
Salem Church/Porter Road	29	31	40	27	35
Glasgow Drive ³	21	15	26	16	10
Brookmont Drive	12	5	8	17	23
Church Road ²	14	31	18	26	29
Walther Road	20	19	12	20	17
SR 7	44	56	41	58	49
SR 1 SB	7	11	8	7	9
SR 1 NB	7	6	2	6	7
Buckley Boulevard	9	9	9	8	8
School Bell Road	6	3	5	5	6
Wilton Boulevard	12	10	22	9	16

¹A fourth leg (north) was constructed in 2010 as part of the LaGrange Development.

²This intersection was studied as part of the 2015 HEP.

³A traffic signal was installed at Route 40 and Glasgow Drive in November 2009.

⁴A traffic signal was installed at Route 40 and Becks Woods Drive in early 2013.

Transit - Fixed Route Bus Service

Comparing transit ridership numbers in 2015 with those of 2014, statewide ridership decreased nearly seven percent while ridership in the US 40 corridor decreased nearly four percent. In the previous year, statewide ridership decreased two and a half percent while ridership in the US 40 corridor increased nearly one percent.

Statewide ridership has decreased nearly seven percent over the past five years, from 2011 through 2015. Ridership in the Route 40 corridor increased, with over two percent growth between 2011 and 2015.

Two of the six routes in the corridor saw an increase in ridership numbers in 2015, while four experienced a decrease. Ridership on bus route 42 decreased over eight and a half percent in 2015 and has decreased over 22 percent since 2011. Ridership on bus route 54 decreased over eight and a half percent in 2015, but has increased over 13 percent since 2011. Ridership on route 55 decreased nearly 11 percent in 2015 and has decreased over two percent since 2011. Ridership on bus route 64 decreased nearly 19 percent in 2015 and

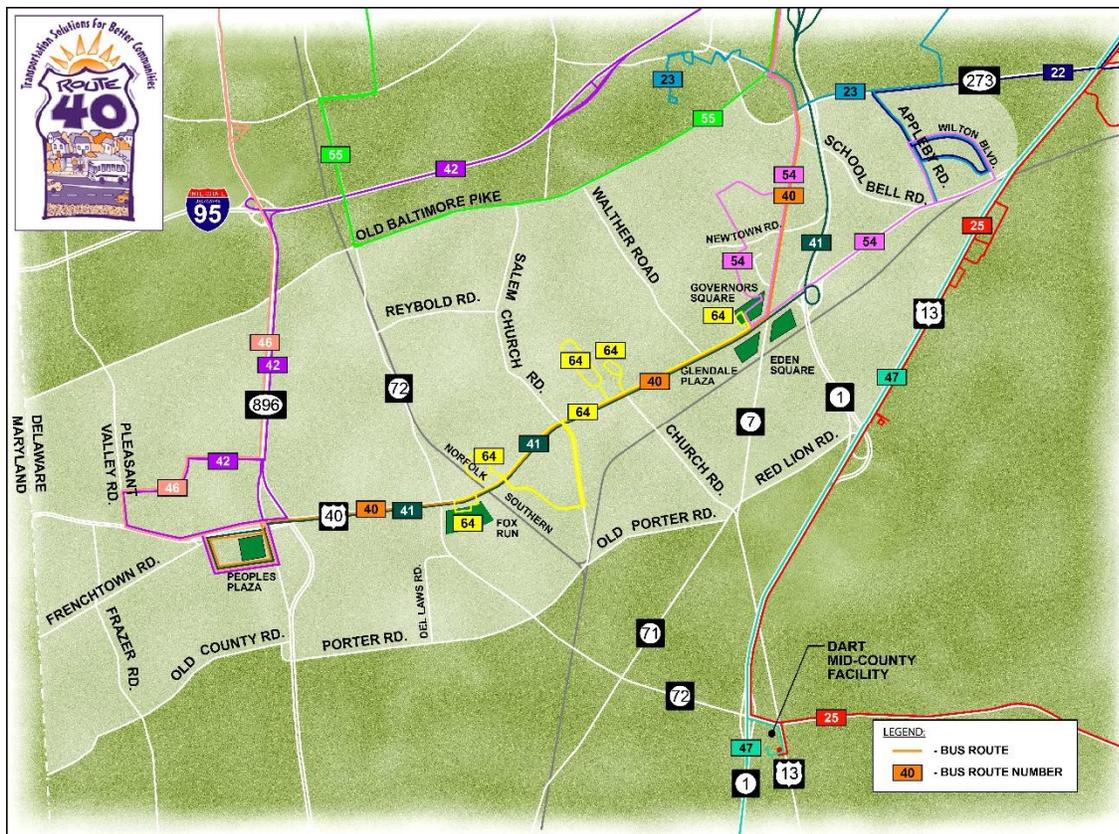
has decreased over 16 percent since 2011. Route 40 increased over three and a half percent in 2014 and Route 41 increased over four percent in 2015. See Figure 4 for route locations.

Multi-stage, statewide fare increases continued in 2015 and new fares went into effect in January. Changes to service include Route 46 travelling north/south between Peoples Plaza and Newark Transit Hub, Route 54 no longer serves downtown Wilmington, and Route 55 no longer serves Peoples Plaza and has reduced service to downtown Wilmington with one daily inbound morning trip and one outbound evening trip.

Cecil Transit continues to operate Route #1, Glasgow Connection and Route #2, Perryville Connection and on January 20, 2015 they began operating Route #4, Elkton-Newark Connection. The new service operates as a circular loop connecting Elkton, Maryland to Newark and Glasgow, Delaware.

In October 2015 DART launched new bus Route 47, which provides service between Wilmington and Middletown employment centers, specifically Amazon.com's Fulfillment Center. This is a commuter route only and is in service during peak times.

Figure 4. Transit Route Map



Project Status

Plan Projects

During 2015, there was one active projects in the corridor that was part of the original Plan: US 40 at SR 72. Figure 5 shows the status of Plan projects in the corridor as of the end of 2015. Detailed descriptions of all active projects are provided below.

US 40 at SR 72

This project includes the addition of a through lane along northbound and southbound SR 72 to provide adequate storage and taper lengths and the addition of left-turn lanes along eastbound and westbound US 40. Del Laws Road will be realigned to reduce the existing skew and align it with the future proposed access to the Fox Run Business Center; a traffic signal will also be installed at the intersection. Pedestrian and bicycle facilities will also be constructed. Semi-final construction plans were submitted in April 2014 and final design will be complete in late 2016. Right-of-way acquisition has begun and construction is scheduled to begin in fall 2017.

Potential Plan Projects

US 40 at SR 896 Interchange and US 40 Widening, Salem Church Road to Walther Road

Depending on the availability of proposed transportation infrastructure funding, the US 40/SR 896 Interchange and the US 40 Third Lane Widening from Salem Church Road to Walther Road will begin final design in 2016 and could begin construction by 2020.

Other Projects in the Corridor

US 40 and Glasgow Avenue

This project was originally identified as part of the 2011 HEP. Proposed improvements include widening the north leg of Glasgow Avenue at US 40 to provide two southbound through lanes, widening the south leg of Glasgow Avenue at US 40 to provide two northbound through lanes, and installing a channelizing island for right-turning vehicles on northbound Glasgow Avenue at US 40. Short-term improvements include the installation of split phasing on northbound and southbound Glasgow Avenue at US 40, restriping the northbound Glasgow Avenue “median” as a shared left-turn/through lane, and pavement marking improvements to discourage

eastbound US 40 vehicles from continuing through the intersection from the eastbound right-turn lane.

The short-term improvements were completed in September 2013 and final design for the long-term improvements was completed in 2014. Construction for the long-term improvements were completed in fall 2015. Crash data at this location will be reviewed in the 2016 CMTR report.

SR 71, Old Porter Road to SR 7

This project was originally identified as part of the 2008 HEP and includes some components of the Old Porter Road improvements in the Route 40 Plan. This project proposes to install a traffic signal at SR 71 and Old Porter Road; convert Church Road to one-way eastbound east of the residential driveway east of SR 71; and widen the intersection of SR 7 and SR 71 to provide separate left-turn, through and right-turn lanes on the northbound and southbound SR 7 approaches and the southbound SR 71 approach. Protected-only left-turn phasing will also be provided on all four approaches at SR 71 and SR 7.

Final design is scheduled to be complete in spring 2016.

US 40 and SR 7 Pedestrian Improvements

This project was originally identified as part of the 2010 HEP due to the lack of pedestrian accommodations at US 40 and SR 7. The proposed improvements include installing signalized pedestrian crossings at the north and south legs of the intersection as well as constructing sidewalk connections along both sides of SR 7 from US 40 to south of Songsmith Drive, along the south side of US 40 from SR 7 to west of Wawa, and along the north side of US 40 from SR 7 to Governors Square Shopping Center.

Final design is scheduled to be complete in fall 2017 and construction could begin in spring 2018.

SR 896 and Porter Road Intersection Improvements

This project was originally identified as part of the 2010 HEP. The proposed improvements include removing the existing concrete median on the east leg and restriping the westbound Porter Road approach to increase the left-turn lane storage; widening along the west side of SR 896 to increase the length of the southbound acceleration lane for the eastbound right turn; widening into the median to increase the storage length of the northbound SR 896 left-turn lane.

Construction is expected to be complete by fall 2015.

SR 72 at Old Baltimore Pike

This project was originally identified as part of the 2011 HEP. The proposed improvements include restricting eastbound left-turns from Old Baltimore Pike into Royal Farms and signal modifications at SR 72. To improve eastbound left-turn capacity at SR 72, a double left-turn lane with eastbound lead/westbound lag left-turn phasing is also proposed.

Final design is scheduled to be complete in fall 2016 and construction could begin in spring 2017.

Old Baltimore Pike at Salem Church Road

This project was originally identified as part of the 2009 HEP. The proposed improvements include removing existing concrete medians and restriping Old Baltimore Pike to provide double left-turn lanes at the approaches to Salem Church Road (east) / Salem Woods Drive and Salem Church Road (west).

Semi-final plans will be complete in late 2015. Final design is scheduled to be complete in early 2017 and construction could begin in late 2017.

Other Projects in the Region

As noted in previous Corridor Monitoring and Triggering Reports, future regional projects may have an impact on the Route 40 corridor. The status of these projects is summarized below.

- **SR 1 Northbound Auxiliary Lane, US 40 to SR 273:** The project proposes an auxiliary lane along northbound SR 1 so that the on-ramp at the US 40 interchange would be a continuous lane to the SR 273 interchange, where traffic can merge onto SR 1 northbound or depart onto SR 273. Construction was completed in late 2015.
- **SR 1 widening, Roth Bridge to SR 273:** Planning has begun for widening (from four to six lanes) and pavement reconstruction along this segment of SR 1. Environmental studies are underway and preliminary design alternatives are being developed. Implementation will be phased over many years.
- **US 301 Mainline:** The alignment for a new limited-access US 301 from the Maryland state line to the south end of the Roth Bridge was approved by the Federal Highway Administration in April 2008. Final design began in late 2008 and was completed in 2014. Construction will begin on certain segments in 2016.
- **SR 72, McCoy Road to SR 71:** This project proposes to widen SR 72 from two to four lanes between McCoy Road and SR 71. Multimodal improvements, including shoulders to accommodate bicycles and new sidewalks are also planned. Final design for the advance utility relocations is scheduled to be complete in summer 2016 and final design for the roadway work is scheduled to be complete in summer 2018.

Figure 5. Project Status



TRIGGERING

Assessment of Monitored Conditions

Traffic congestion in the corridor did not change substantially in 2015. Levels of service were acceptable for all intersections that were counted in 2015. Sixteen years of traffic data confirm that growth rates are significantly lower than originally anticipated by the Plan.

During 2015, there were 16 new development plans submitted to New Castle County for review in the Route 40 corridor. Review of 10 major developments proposed before 2015 continued this year. Among those plans, three (743 Pulaski Highway, Rockwood Parcel 1-A, and Bradford Pond) were recorded during 2015.

There were two sites located within the Route 40 Corridor on the 2015 HEP list, Church Road, from 0.24 miles south of US 40 to US 40, and Appleby Road, from Winburne Drive to SR 273. Crash reports will be reviewed at three intersections, Peoples Plaza, SR 896, and Brookmont Drive.

Comparing transit ridership numbers in 2015 with those of 2015, statewide ridership decreased nearly seven percent while ridership in the US 40 corridor decreased nearly four percent. Multi-stage, statewide fare increases continued in 2015 and new fares went into effect in January 2015. Also in January, Cecil Transit began operating Route #4, Elkton-Newark Connection, and in October DART began service of new bus Route 47, which operates between Wilmington and Middletown.

Due to funding constraints all Route 40 projects, except for design of Route 40 / SR 72 intersection improvements, are currently on hold.

There are no regional highway or transit projects planned that would trigger the need for improvements in the corridor. However, the impact of the I-95/SR 1 interchange construction will be monitored to determine the potential impact to traffic along Route 40.

Recommendations

General

- Continue to identify funding sources to implement as many of the recommendations below as possible and restore projects that have been placed on hold.

Land development

- Continue to monitor development activity to ensure compatibility with the Plan and maintain consistent developer contributions to transportation improvements.
- Monitor developer agreements for major land developments to ensure the compatibility of developer-sponsored improvements with the Plan.

Corridor preservation

- Continue pursuing corridor preservation opportunities through the site review team process.

Highway safety

- Review crash data summary to identify any locations with significant increases in crash rates in 2015.

Transit

- Identify existing bus stops where improvements are needed – damaged shelters, need for lighting, access and sidewalk reconstruction
- Continue to track ridership in the corridor and provide service enhancements where appropriate.
- Continue participation in the site review team to identify opportunities for developer-funded transit improvements such as bus service expansion, bus stop improvements, transit oriented development, and innovative trail projects throughout the Route 40 Corridor.

Planning, design, and construction

- Continue final design for the US 40 / SR 72 intersection improvements
- To the extent funding can be made available, establish schedules for the following projects that are on hold:
 - US 40 / SR 896 interchange (preliminary and final design)
 - Newtown Trail (final design)
 - Reybold Road, SR 72 to Salem Church Road (final design)
 - Old Porter Road, Porter Road to SR 71 (final design)
 - US 40 / Pleasant Valley Road Intersection (concept design)

- Church Road, Wynnefield to SR 71 (concept design)
- US 40 sidepaths, Maryland State Line to SR 896 (concept design)
- US 40 environmental assessment, SR 896 and SR 1 (concept design)

PUBLIC INVOLVEMENT

Activities During 2015

There were no public involvement initiatives during 2015 due to funding constraints.

The project website, which was reformatted in 2011 to match the current DelDOT standard, is updated annually to provide the latest information on implementation of the Plan. The site contains information from newsletters, updates on project planning, design, and construction, and a schedule of public meetings and workshops. The site can be accessed from the DelDOT Web site at:

<http://www.deldot.gov/information/projects/rt40/index.shtml>

Activities Planned For 2016

To ensure the community is kept up to date and involved in the progress of transportation improvements in the Route 40 corridor, the project team will continue the following communications initiatives for 2016:

Website - The Route 40 corridor project website will continue to be maintained and updated on a regular basis.

Public workshop - If funding is in place to make significant progress on Plan implementation in 2016, a summer public workshop will be held, most likely as a virtual public workshop. Interested stakeholders (the CMC, former Route 40 Steering Committee members, elected officials, civic associations and residents on the mailing list) will receive notice of that workshop.

E-mail, project mailing address and telephone hotline - Residents will still be able to communicate with the project team through various channels—email, mailing address, or telephone.



Whitman, Requardt & Associates, LLP
Engineers · Architects · Environmental Planners Est. 1915

1013 CENTRE ROAD, SUITE 302
WILMINGTON, DELAWARE 19805
302-571-9001
WRALLP.COM