

2010 CORRIDOR MONITORING AND TRIGGERING REPORT

September 2011



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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 eleventh year. This eleventh 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, which the project team monitored throughout the year. The CMC met once in May of 2010 and will likely continue to meet once a year.

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 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 (for example, widening of Interstate 95) 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 TIP/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. Since the peak of new development activity in 2003, the number of new applications in the corridor has steadily declined. As a result, the site review team no longer meets regularly. In 2010, DelDOT's Development Coordination Section met on a monthly basis to review development proposals throughout New Castle County. 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 2010, there were 17 new development plans (5 major / rezoning, 5 minor, and 7 resubdivision / other) submitted to New Castle County for review in the Route 40 corridor. This level of development activity is less than last year. However, there were five new major plans submitted in 2010, which is two more than the number submitted in 2009. 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 18 major developments proposed before 2010 continued this year. Among those plans, four (Lighthouse Baptist Church, Reserve at Becks Pond, Old State Road Hotel, and School Bell Crossing) were recorded during 2010. Among the remaining 14 major development plans, five are in the record plan submittal stage, three are in the preliminary submittal stage, three are in the exploratory submittal plan review stage, and three expired. Additional impacts of some significant developments on the Plan are as follows:

- The proposed Lincoln Center development is located on a 56-acre portion of the property previously owned by JP Morgan Chase, adjacent

to the bank's core data center on Route 7. The proposed development includes 508 dwelling units and 761,500 square feet of retail, office and mixed use buildings. The plan also includes a park, early learning center, and Pencader community center. The historic house and cemetery on the site will be restored. The first phase will include the same amount of traffic proposed for the original First USA Bank proposal for the site. The developer will provide up to \$2.5 million for traffic mitigation both on- and off-site, along with monitoring to ensure the development meets its trip reduction goals. DelDOT is still reviewing the potential phasing of the site as related to concurrency.

- School Bell Crossing is a proposed development located on the south side of Route 40 at the intersection of School Bell Road. The development will include a 69,659 SF supermarket and 41,800 SF of retail. As part of the proposal, the developer will add a fourth leg to the intersection of Route 40 and School Bell Road, along with an access road for existing development along the south side of Route 40.
- The Vista at Red Lion is a two-phase development along Old Porter Road that includes 289 single family units and 286 age-restricted townhomes. DelDOT is working with the developer to construct improvements that were recommended in Phase I of the Route 40 Plan.
- The Whitewood Village subdivision is located on the 165-acre Sniadowski parcel on both sides of Reybold Road. A 209-lot townhouse community is proposed on the portion of the property north of the road. DelDOT is working with the developer to include offsite transportation improvements along Reybold Road, including widening and constructing a segment of a shared-use bicycle/pedestrian path.
- The Meridian Crossing II developer is required to provide roadway improvements along Old Porter Road near the site entrance. One of these improvements includes realignment of the curve east of Lauren Farms. Final design is complete and right-of-way negotiations are underway.
- Among many of the minor development plans new for 2010 and previously reviewed, DelDOT and New Castle County continue to consolidate access and recommend cross access agreements where feasible.

Table 1. Major Development Plans/Rezoning Received and/or Reviewed During 2010.

Site	Description	Remarks	New plan in 2010?
Lighthouse Baptist Church	16,079 square foot church, 8,005 square foot multi-purpose building, 720 square foot storage building	Recorded	No
Reserve at Becks Pond	Workforce plan for 240 apartment units	Recorded	No
Old State Road Hotel	Rezone from S to CR and develop site with 80 room hotel	Recorded	No
School Bell Crossing Shopping Center	69,659 square foot supermarket and 41,800 square foot retail building	Recorded	No
Lincoln Center	508 dwelling units and 761,500 square feet of office, retail, and mixed use buildings	Record Submittal	No
Farmington Phase 3	Subdivide lot no. 200 into 11 building lots	Record Submittal	No
Rockwood Parcel 1-B	26 additional apartment units, 21 storage units plus 10,000 square foot daycare in existing apartment development	Record Submittal	No
Belltown Business Center	Five office/warehouse buildings with a total of 120,000 square feet, proposed on 33.53 acres	Record Submittal	No
Soneji Property	Rezone from NC21 to ST for 20 apartments	Record Submittal	No
Vista at Red Lion Section Two	Rezone from S to ST for 289 single family units	Preliminary Submittal	No
Old State Road Self Storage	Rezone from S to CR for construction of 48,350 square feet of mini-warehouses with office	Preliminary Submittal	No
Vista at Red Lion Section One	Rezone from S to ST to construct 286 age restricted townhouse units on 56.71 acres	Preliminary Submittal	No
339 Old State Road	Rezone property from S to CR, combine three tax parcels, construct 24,260 square feet of flex warehousing	Exploratory Submittal	No
Whitewood Village	209 lot townhouse subdivision	Exploratory Submittal	No
La Grange Plaza	Rezone 1.41 acres of S lands to CR and develop site with 5,548 square foot restaurant, 11,760 square foot retail building and associated improvements	Exploratory Submittal	No
Governor's Square Commercial Center	Rezone 31.935 acres from OR to CR to construct a 227,995 square foot commercial development	Exploratory Submittal	Yes
Meridian Crossing II	Resubdivide existing 20 single family lots into 50 twin lots	Exploratory Submittal	Yes
Meridian Crossing	Replace 43 single family detached units with 82 single family attached twin units	Exploratory Submittal	Yes
504 Pulaski Hwy Used Car Sales/Auto Repair	Rezone from NC21 to CR with proposed 19,600 SF used car sales/auto repair building	Exploratory Submittal	Yes
Rockwood Parcel 1-C	90 apartment units, 5 storage buildings	Expired	No
Maria's Court	Workforce plan for 19 townhouses	Expired	No
Rockwood Section A	71 apartment buildings totaling 426 units, storage building and associated improvements	Expired	No

Developer Agreements

In addition to those previously noted, more than 35 land development projects in the Route 40 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.

TIS Waivers / Fair Share Contributions

In 2005, New Castle County added a provision to its Unified Development Code allowing developers a waiver from the Traffic Impact Study (TIS) process under certain conditions. TIS Waivers are allowed in Transportation Improvement Districts (TIDs), or similarly defined areas where a transportation plan is in place. Although Delaware currently has no official TIDs, the Route 40 Corridor has many characteristics of one. A TIS Waiver is intended to use the long-range 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), and DelDOT must confirm that Level of Service (LOS) standards are met.

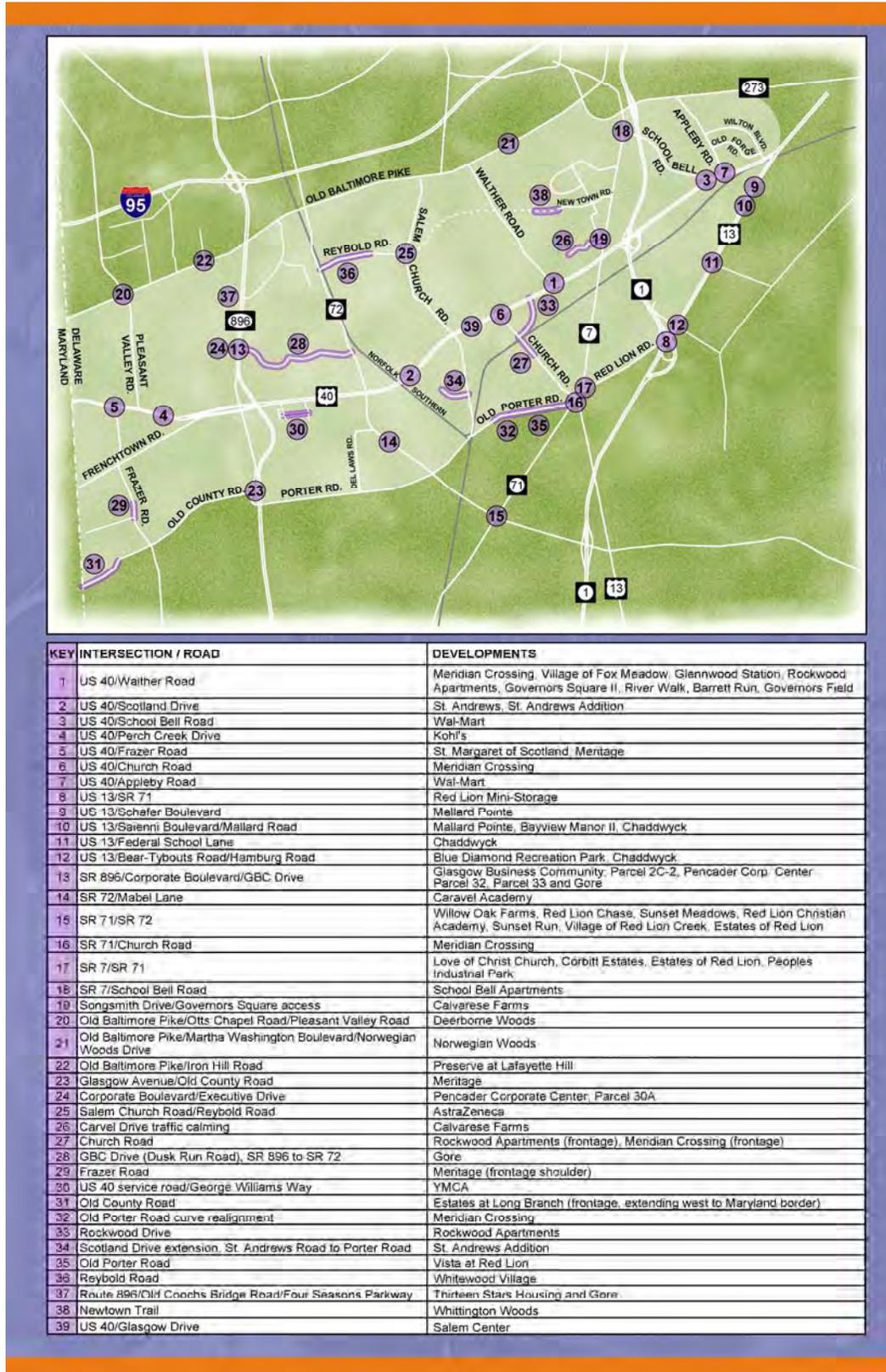
Within the Route 40 Corridor a total of twenty development plans have requested a TIS Waiver. By the end of 2010, fifteen have been approved and two did not require a TIS. One involved workforce housing (Reserve at Becks Pond) and one was not required because of a recently constructed intersection improvement (Lighthouse Baptist Church). DelDOT required a TIS for one development, Whitewood Village.

Figure 1. Major Development Plans/Rezoning Location Map.



- | | |
|---|--|
| 1. Lighthouse Baptist Church | 12. Vista at Red Lion Section One |
| 2. Reserve at Becks Pond | 13. 339 Old State Road |
| 3. Old State Road Hotel | 14. Whitewood Village |
| 4. Lincoln Center | 15. La Grange Plaza |
| 5. Farmington Phase 3 | 16. Governors Square Commercial Center |
| 6. Rockwood Parcel 1-B | 17. Meridian Crossing II |
| 7. Belltown Business Center | 18. Meridian Crossing |
| 8. School Bell Crossing Shopping Center | 19. Rockwood Parcel 1-C |
| 9. Soneji Property | 20. Maria's Court |
| 10. Vista at Red Lion Section Two | 21. Rockwood Section A |
| 11. Old State Road Self Storage | 22. 504 Pulaski Highway |

Figure 2. Developer Contributions.



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 2009. 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 about 10 to almost 20 percent below the 2010 projections. As a result, the general growth trend through 2010 is about 1.2 percent annually. This reflects a national trend in which traffic has decreased since about 2005.

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 all signalized intersections on US 40 in November 2010. 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 DeIDOT. A new signal was installed at the intersection of US 40 and Glasgow Drive in late November 2009 and was included in this year's study for the first time.

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 DeIDOT. The results of the level of service (LOS) analysis are summarized in Table 3. As indicated, six intersections had minor degradation in levels of service from 2009 and nine experienced slight improvements.

- The intersection of US 40 and Frazer Road improved to LOS B in the AM peak after falling to LOS D in 2009. The intersection remained at LOS B in the PM peak.
- The intersection of US 40 and Pleasant Valley Road returned to LOS C in 2010 after falling to LOS E in the PM peak in 2009. The change in LOS can be attributed to the decrease in southbound volumes along with an adjustment to the traffic model that accounts for the minimal volume on the northbound approach. The AM peak also improved from LOS C to LOS B.
- The intersection of US 40 and SR 72 remained at LOS D in the AM peak for the third consecutive year and improved to LOS D in the PM peak.
- The intersection of US 40 and Salem Church Road / Porter Road remained at LOS D in the AM peak and improved from LOS E to LOS D in the PM peak. The change in LOS can be attributed to a substantial decrease in the volumes of northbound and southbound vehicles.
- The intersection at US 40 and SR 7 remained at LOS C in the AM peak for the third consecutive year and improved to LOS C in the PM peak.
- The intersection at US 40 and US 13 worsened to LOS D in the PM peak while remaining at LOS B in the AM peak. The change in the PM peak is primarily attributed to an increase in northbound US 13 traffic.
- All other signalized intersections on US 40 operated at acceptable levels of service (D or better) during both peak hours.

Levels of service at selected intersections over the course of the Route 40 planning process are illustrated in Figure 4.

Table 2. Average Daily Traffic.

Location	Plan volumes (1998/1999)	2000 counts	2009 counts	Projected 2010 volumes	Actual 2010 volumes	Percentage over (under) projected	2020 forecast
East of Perch Creek Drive	34,000	29,000	35,656	41,636	36,597	-12.1%	48,000
West of SR 72	29,000	27,000	32,080	40,455	32,616	-19.4%	50,000
West of Salem Church Road	32,000	34,000	35,628	42,909	36,640	-14.6%	52,000
West of Walther Road	41,000	43,000	43,518	50,273	44,972	-10.5%	58,000
West of Wilton Boulevard	27,000	27,000	34,900	30,273	25,251	-16.6%	33,000

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

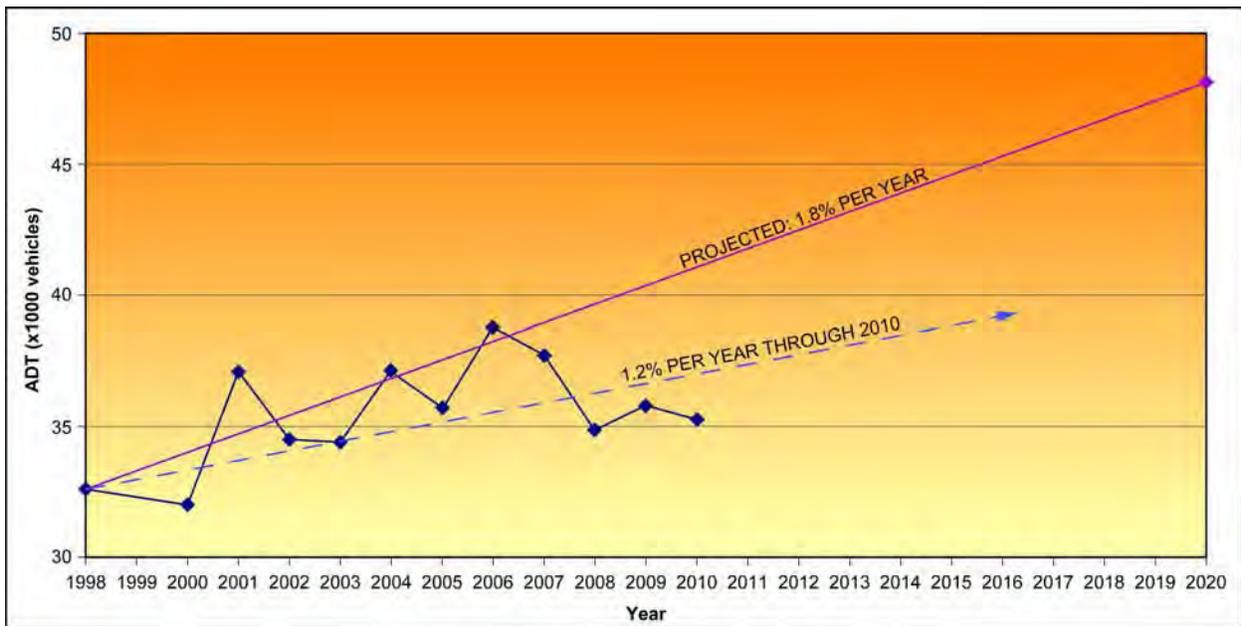


Table 3. Signalized Intersection Level of Service Summary.

INTERSECTION	PEAK HOUR LEVEL OF SERVICE									
	Base Year (1998/1999)		2000		2009		2010		2020 w/o the Plan ⁴	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Frazer Road ¹	-	-	-	-	D	B	B	B	F	C
Pleasant Valley Road	C	C	C	C	C	E	B	C	E	F
Perch Creek Drive ²	-	-	B	A	B	B	B	B	C	C
Peoples Plaza north	B	C	A	B	A	A	A	A	A	A
Peoples Plaza south	B	B	B	C	C	D	C	C	C	D
Glasgow Avenue north	C	C	C	C	C	D	D	D	C	E
Glasgow Avenue south	C	D	B	C	C	C	D	C	D	D
SR 896	D	D	D	E	D	D	D	D	F	F
Lagrange Avenue	-	-	-	-	A	B	B	C	B	C
SR 72	D	D	E	E	D	E	D	D	E	E
Scotland Drive	C	B	B	B	C	D	C	C	C	C
Salem Church/Porter Road	C	C	D	D	D	E	D	D	D	F
Glasgow Drive ³	-	-	-	-	-	-	A ²	B ²	-	-
Brookmont Drive	B	B	B	B	A	B	A	B	B	B
Church Road	D	C	D	C	C	B	C	C	C	C
Walther Road	C	D	D	D	C	C	C	D	C	C
Governors Square	B	C	C	C	C	D	C	D	C	D
SR 7/Eden Square	E	D	E	D	C	D	C	C	D	E
SR 1 SB Ramps	A	A	A	A	A	A	A	A	B	C
SR 1 NB Ramps	B	B	B	A	B	B	A	A	E	C
Buckley Boulevard	-	-	B	B	C	C	B	C	B	C
School Bell Road	B	B	C	A	A	A	A	A	A	A
Wilton Boulevard	B	B	C	C	B	C	B	C	B	C
US 13	D	B	C	B	B	C	B	D	F	F

Note: Red denotes a worse level of service than 2009; green denotes improvement in level of service over 2009.

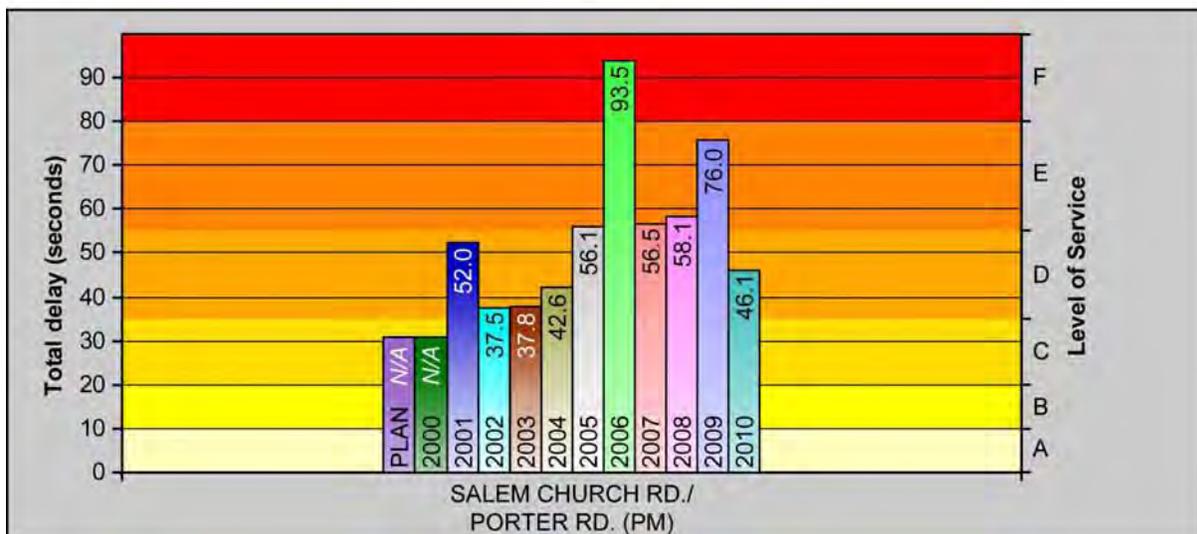
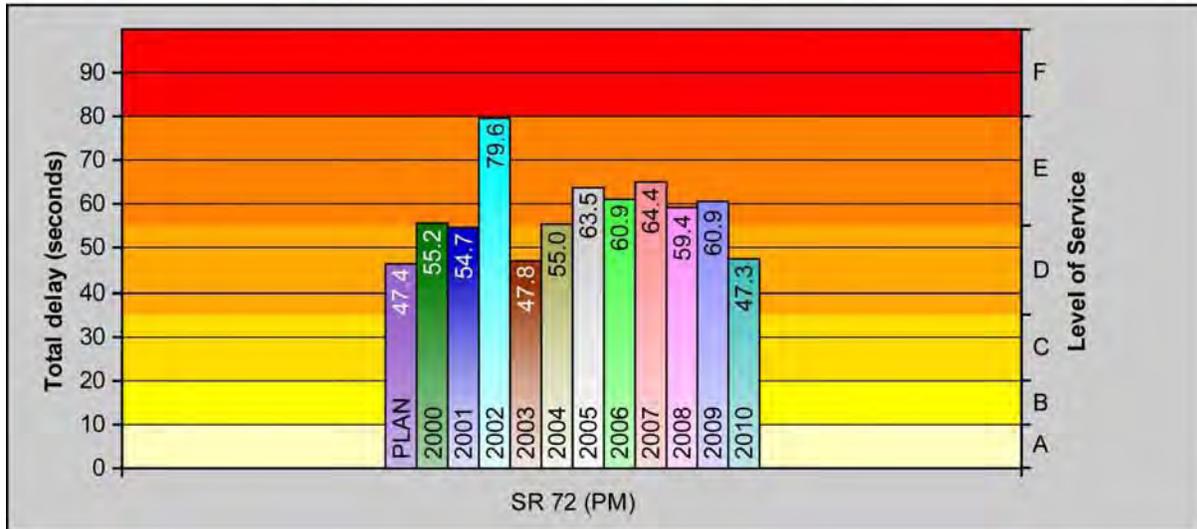
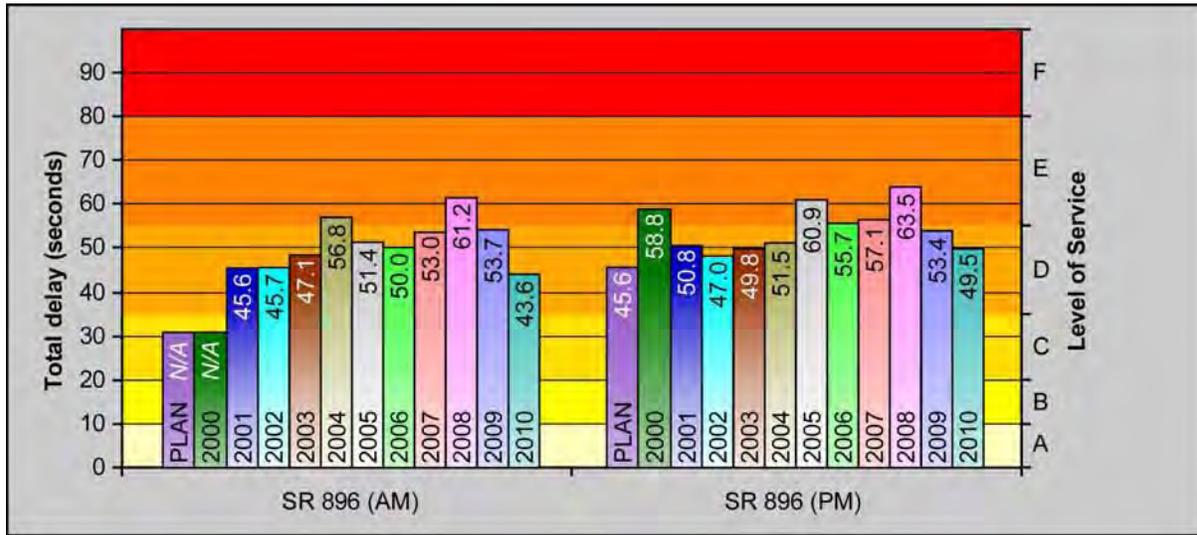
¹ A traffic signal was installed at US 40 and Frazer Road in 2004.

² A fourth leg (north) was constructed in 2010 as part of the LaGrange Development.

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

⁴ 2020 traffic projections were updated in 2009

Figure 4. Level of Service Comparison at Selected Intersections.



2010 marks the halfway point of the Route 40 Corridor 20-Year Transportation Plan. To assess the validity of the plan beyond its original horizon year of 2020, an analysis of projected 2030 traffic volumes was conducted. DelDOT'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 will 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 will not 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 must 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 2010

The goal of this report with respect to safety is to determine those intersections where crash rates increased significantly (>50%) compared to the previous four-year average, identify the reasons for those increases, and consider those sites for detailed study and improvement recommendations. To determine priorities for potential safety improvements, crash summary data was analyzed at signalized intersections in the Route 40 corridor. In previous years, the number of crashes at each intersection was compared to the average number of annual crashes at that same location for all previous study years. However, an updated crash analysis reporting system was implemented in 2010 and it was determined that the approach to quantifying intersection crashes in the corridor should be adjusted to better utilize the new system.

Table 4 shows the number of reported crashes annually at selected intersections from 2006-2010. The new crash reporting system was used to establish

a baseline for the most recent five year period. The 2010 crash totals were compared to the previous four 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 DelDOT 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 six intersections where the 2010 reported crash total is more than 50 percent higher than the previous four year average. At two of the locations, Frazer Road and Glasgow Drive, the 2010 reported crash total was ten, which is relatively low when compared to other intersections in the corridor. It is also important to consider that a new traffic signal was installed at Route 40 and Glasgow Drive in November 2009. The highest crash total (37) among the remaining intersections was at SR 72, which will be studied as part of the 2011 HEP (Site W), so no further study is recommended at this time. Based on the reported crash totals for 2010, detailed crash reports should be requested and reviewed at the following intersections to determine potential crash patterns:

- Route 40 at Frazer Road
- Route 40 at Glasgow Avenue
- Route 40 at LaGrange Avenue
- Route 40 at Walther Road

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

Previous Safety Studies

Route 40 at Wilton Boulevard

As part of the 2007-2008 Route 40 Corridor Monitoring and Triggering Report, a safety study was conducted at the intersection of Route 40 and Wilton Boulevard. Due to a cluster of pedestrian crashes, including two fatalities between August 2007 and January 2008, the goal of the study was to develop and evaluate options to improve pedestrian safety and accessibility at Route 40 and Wilton Boulevard.

Based on recommendations from that study, new lighting was installed along both sides of Route 40 between Wilton Boulevard and US 13 in 2010. The intent of the lighting is to improve pedestrian visibility, since most of the pedestrian related crashes

occurred in dark, unlit conditions. In addition, intersection improvements were started in late 2010 that will provide new countdown pedestrian signals, reconstructed directional islands on the north leg, updated crosswalk striping, and curb ramps to improve pedestrian accessibility and meet current ADA requirements. Updated signing will also be installed to discourage pedestrians from crossing Route 40 outside the limits of the crosswalk.

Hazard Elimination Program Sites

DelDOT's statewide Highway Safety Improvement Program (HSIP) includes several categories of transportation safety throughout the state. One of those categories includes the Hazard Elimination Program (HEP), which involves reviewing statewide crash rates and selecting 30 sites for study.

The following sites within the corridor were part of DelDOT's statewide 2009 and 2010 HEP. Crash rates were based on events that took place during the three preceding calendar years (e.g. 2006 – 2008 for the 2009 HEP). The recommendations from the HEP review team and status of implementation are summarized below:

- 2009 Site R – Old Baltimore Pike from east of Hanna Drive to east of Timber Wood Boulevard.
 - As recommended in the HEP committee Task I report, remedial signing and pavement marking improvements were implemented at this intersection.
 - As a part of the Task II Report, the HEP committee completed additional studies and recommended installing protected-only left-turn phasing along with some additional lighting as a short-term improvement. Long-term improvements include removing 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). Additional potential improvements include significant widening of Old Baltimore Pike and realigning the north leg of Old Baltimore Pike at Salem Church Road (east) / Salem Woods Drive to the west.
 - As part of the 2008 Electronic Red Light Safety Program (ERLSP), red light enforcement cameras were proposed at the Old Baltimore Pike at Salem Church Road (east)/Salem Woods Road intersection and installed on May 22, 2010.

- 2010 Site E - Porter Road/Salem Church Road from south of Route 40 to north of Bradley Drive.
 - As a part of Task I, the HEP committee recommended several remedial signing and striping improvements.
 - Additional studies were recommended for Task II to determine the need for extending the eastbound Route 40 left-turn lane at Salem Church Road/Porter Road and to determine the need for additional time to serve the eastbound Route 40 left-turn movement.
 - At the Task II meeting, the HEP committee recommended modified signal timings to reduce delay and extending the eastbound Route 40 left turn lane to accommodate peak hour queue lengths.
- 2010 Site K – US 40/Pulaski Highway from east of Glendale Boulevard to east of Robin Drive North.
 - Remedial improvements were recommended as part of the Task I report. These included signing and striping improvements throughout the corridor, installing backplates on the signal heads at US 40 and the northbound and southbound SR 1 signals, and upgrading pedestrian facilities at US 40 at Buckley Boulevard.
 - Additional studies were conducted for Task II in order to identify alternatives to reduce the potential for northbound and southbound SR 7 right-turn rear end crashes at US 40 and examine the need for and feasibility of installing pedestrian signals at the US 40 at SR 7 intersection.
 - As a part of Task II, the HEP committee recommended signal phasing modifications at US 40 at SR 7 in order to minimize stopping and starting for northbound and southbound right-turning motorists and the potential for rear end crashes. In conjunction with the signal phasing modifications, additional signing and striping improvements were recommended at US 40 and SR 7, as well as installing backplates on the signal heads at the US 40 at SR 7 and US 40 at Eden Square Shopping Center intersections. Also, the installation of signalized pedestrian crossings is recommended across the north and south legs of SR 7 at US 40, as well as the construction of additional sidewalk connections.
- 2010 Site V – Porter Road from US 301/SR 896 to east of Jayson Drive
 - At the Task I meeting, the HEP committee recommended implementing several signing improvements, striping improvements, trimming trees that obstructed corner sight distance and upgrading guardrail end treatments on Porter Road.
 - Additional studies were recommended and conducted at the SR 896 at Glasgow Avenue/Porter Road intersection to determine the feasibility and benefits of modifying the existing eastbound Glasgow Avenue and westbound Porter Road signal phasing from split to concurrent phasing and removing a portion of the westbound Porter Road median.
 - At the Task II meeting, the HEP committee recommended the installation of concurrent, protected-only lag left-turn phasing on the eastbound and westbound approaches at the SR 896 at Glasgow Avenue/Porter Road intersection and removing the channelizing portion of the concrete median on the east leg of the intersection in order to increase capacity and reduce the potential for through queues blocking access to the adjacent left-turn lane. Replacing the eastbound Glasgow Avenue acceleration lane with a combination acceleration/deceleration auxiliary lane along southbound SR 896 between Glasgow Avenue/Porter Road and the Glasgow Reformed Presbyterian Church entrance and installing longitudinal rumble strips along SR 896 from US 40 to the Summit Bridge were also recommended to reduce potential crashes.

Table 4. Intersection Crash Data Summary.

INTERSECTION	NUMBER OF REPORTED CRASHES				
	2006	2007	2008	2009	2010
Frazer Road	7	5	4	2	10
Pleasant Valley Road	14	10	11	9	14
Perch Creek Drive ¹	8	7	7	12	10
Peoples Plaza	3	4	5	8	6
Glasgow Avenue	17	21	17	21	30
SR 896	29	33	30	27	37
LaGrange Avenue	10	3	4	2	12
SR 72 ²	24	21	24	24	37
Scotland Drive	18	24	27	24	30
Salem Church/Porter Road ³	32	33	28	38	36
Glasgow Drive ⁴	2	3	5	6	10
Brookmont Drive	10	12	18	11	11
Church Road	26	20	12	15	21
Walther Road	9	21	18	20	31
SR 7 ³	55	49	40	44	45
SR 1 SB ³	11	8	6	6	9
SR 1 NB ³	8	8	8	2	5
Buckley Boulevard ³	12	9	5	11	6
School Bell Road	4	5	4	5	1
Wilton Boulevard	16	23	16	13	22

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

²This intersection will be studied as part of the 2011 HEP.

³This intersection was studied as part of the 2010 HEP.

⁴A traffic signal was installed at Route 40 and Glasgow Drive in November 2009.

Transit Service

At the time of this report, transit ridership numbers were only available through June of 2010. Comparing the first six months of 2010 with those of 2009, statewide ridership increased nearly five percent with ridership in the US 40 corridor up approximately six and a half percent. In the previous year, both experienced variations of less than one percent.

Since the inception of the Route 40 Plan in 2000, statewide ridership has increased over 18 percent through 2009 and increased almost five percent during the first half of 2010. Ridership in the Route 40 corridor continued to grow in 2010 after almost 32 percent growth between 2000 and 2009.

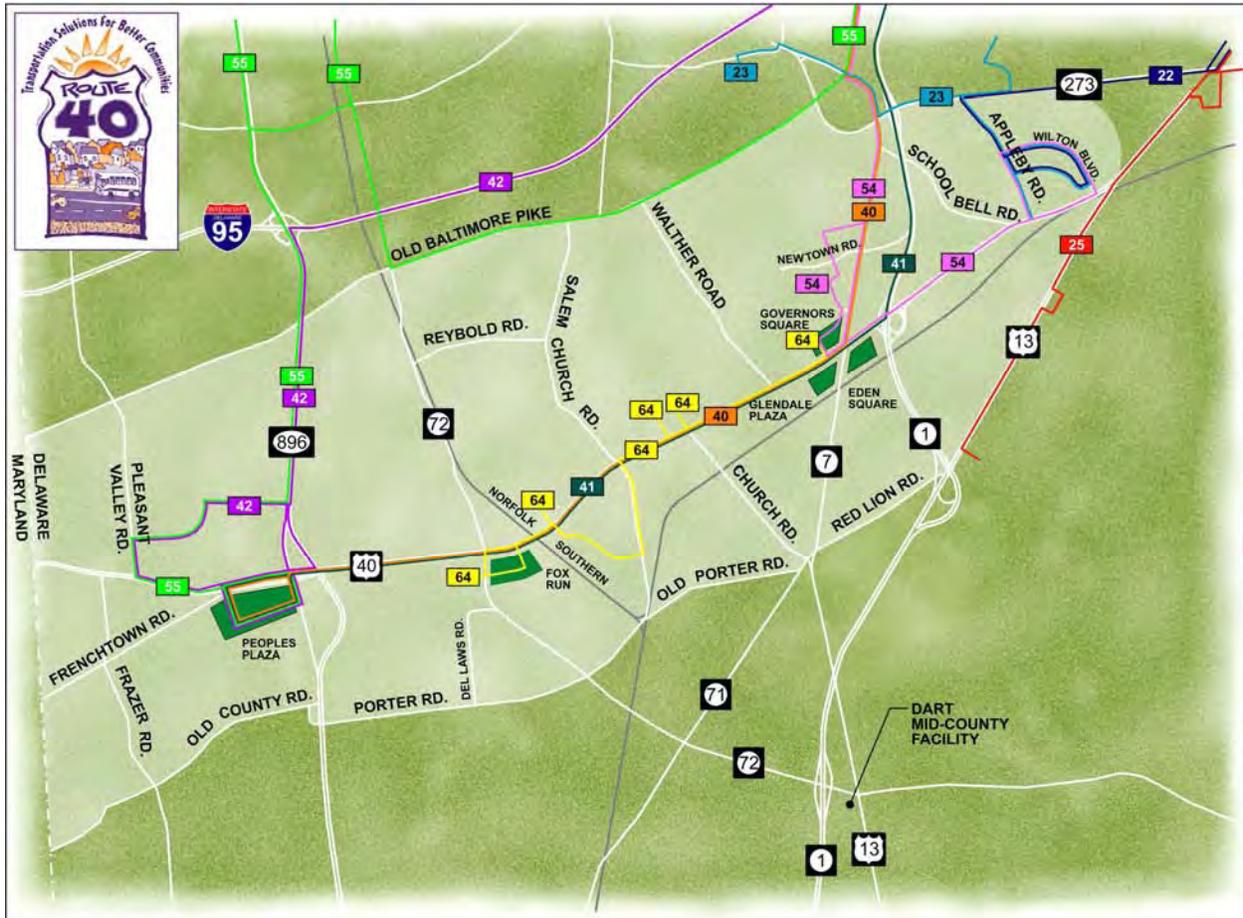
DART First State routes 40, 41, and 42 continue to provide service between Peoples Plaza and Wilmington, route 54 links the Taylortowne and Wilton areas with Christiana Mall, and route 55 connects Glasgow with Christiana Mall and

downtown Wilmington via Old Baltimore Pike. Finally, route 64 provides local feeder service to neighborhoods along Route 40 between Governors Square and Fox Run.

Four of the six routes in the corridor saw an increase in ridership numbers in 2010, while two experienced slight decreases. Ridership on route 41 increased approximately 54 percent after an increase of about 25 percent in 2009. A spring 2008 service change extended route 55 non-peak trips from Glasgow to Newark. After increasing more than 26 percent in 2009, ridership on route 55 decreased approximately two percent in 2010. Ridership on route 42 decreased almost five percent, while the other routes in the corridor saw increases in ridership between about 3 and 15 percent. See Figure 5 for route locations.

There were no service changes in the corridor in 2010 and none are currently planned for 2011.

Figure 5. Transit Route Map.



Project Status

There was one active project in the Route 40 corridor during 2010, SR 7, Newtown Road to SR 273. This circumstance is primarily due to concept and final design for projects awaiting construction funding in the future. Figure 6 shows the status of projects in the corridor as of the end of 2010. Detailed descriptions of projects are provided below.

SR 7, Newtown Road to SR 273

In 2004, final design began for the widening of SR 7 to four lanes between Newtown Road and SR 273. These improvements will extend the widening between US 40 and Newtown Road, which was completed in 2006. The project includes sidewalks, bike lanes, and significant improvements at the School Bell Road intersection. Final design will be complete in early 2011. Right-of-way acquisition began in 2009, utility relocation began in 2010, and construction may start in summer 2011, depending on available funding and the advanced utility work.

Eden Square Connector

A connection will be provided from SR 7 opposite the Glendale Connector to the rear of the Eden Square Shopping Center. This project will allow elimination of the left turn from Eden Square onto US 40, which is expected to improve traffic operations in the area. The project will include slight widening of the Glendale Connector, installation of a traffic signal at the SR 7 intersection, and reconfiguration of the access to the Eden Support Services Center (the former Leasure School). Final design was completed in October 2008. A construction schedule has not been established for this project.

Newtown Trail

The Newtown Trail is a proposed bicycle and pedestrian path connecting Salem Church Road with SR 7. This trail provides a unique opportunity for bicycle and pedestrian transportation serving numerous residential communities, schools, parks, and employment centers between US 40 and Old Baltimore Pike. A public workshop was held on April 22, 2002 to introduce the project, and final design is on hold. Although a construction schedule has not been established for the majority of this project, the portion between Brookfield and SR 7 was completed as part of the Bear Area Pedestrian Improvements project in January 2008.

US 40 / SR 72 Intersection

Widening of SR 72 at US 40 is needed to alleviate existing capacity and safety concerns. To provide appropriate capacity and traffic operations at the intersection, the SR 72 widening will extend from north of Mabel Lane to GBC Drive. Minor realignment of Del Laws Road is also proposed to match the proposed entrance to the Fox Run Business Center. A public workshop was held on July 19, 2005 to present four alternatives to the public. A preferred alternative was selected and final design began in 2008. Preliminary plans were submitted in May 2008 and the project is currently on hold.

Projects In Concept Design

Concept design is currently on hold for the following projects.

- **US 40/Pleasant Valley Road intersection.** Phase II of the Route 40 Corridor 20-Year Transportation Plan calls for turn lane improvements at the intersection of US 40 and Pleasant Valley Road. Specifically, a second left turn lane and second right turn lane are anticipated on the southbound Pleasant Valley Road approach and a second eastbound left-turn lane on US 40.
- **Church Road, Wynnefield to SR 71.** Phase III of the Route 40 Corridor 20-Year Transportation Plan calls for bike lane improvements to Church Road from the south end of the current improvement project to SR 71.
- **US 40 Sidepaths, Maryland State Line to SR 896.** Phase III of the Route 40 Corridor 20-Year Transportation Plan calls for sidepaths along US 40 from the Maryland State Line to SR 896.

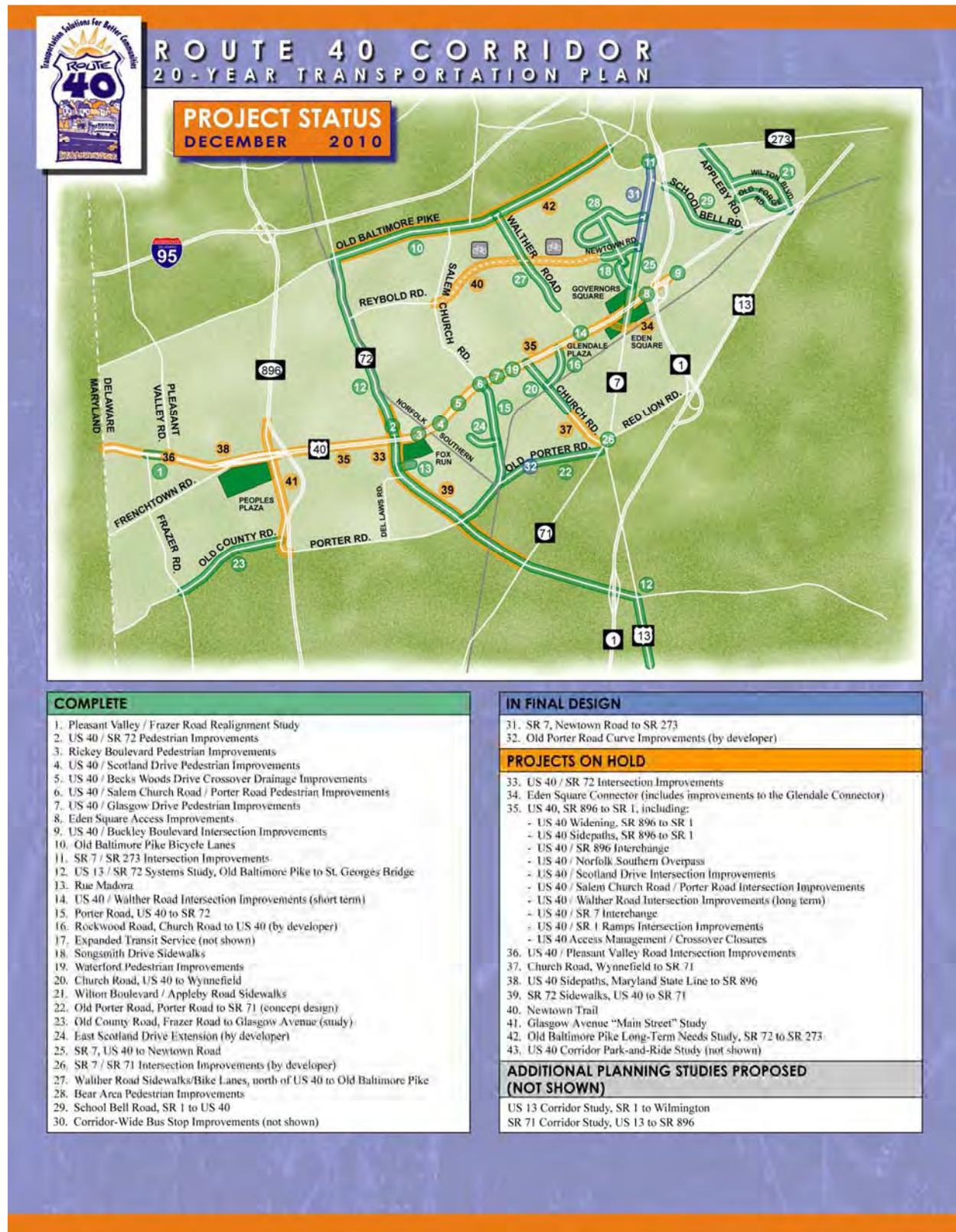
Other Projects in the Region

As noted in previous Corridor Monitoring and Triggering Reports, two future regional projects may have an impact on the Route 40 corridor: widening of I-95 and the US 301 project. The status of these projects is summarized below.

- **Widening of I-95, Maryland line to SR 1:** Widening this segment of I-95 from eight to ten lanes is planned at some point. However, this project is no longer in WILMAPCO's 2040 Regional Transportation Plan (RTP) except as an "Aspirations Project."

- **I-95/SR 1 interchange improvements:** Planning was completed in 2004 for major interchange improvements, including two-lane ramps connecting the north leg of I-95 with the south leg of SR 1. Final design is complete and construction is funded to begin in 2011.
- **Widening of SR 1, US 13 to I-95:** Widening (from four to six lanes) and pavement reconstruction along this segment of SR 1 is planned at some point. However, this project is no longer in the 2040 RTP except as an “Aspirations Project.”
- **US 301 Project:** The selected alternative for a new limited-access US 301 from the Maryland state line to the south end of the Roth Bridge was announced in May 2007. Final design began in late 2008 and is expected to be complete by 2012. Construction could begin on certain segments as early as 2012, depending available funding from proposed toll revenue bonds.

Figure 6. Project Status.



TRIGGERING

Assessment of Monitored Conditions

Generally, traffic congestion in the corridor did not increase substantially in 2010. Levels of service were acceptable for all intersections. Eleven years of traffic data confirm that growth rates are lower than originally anticipated by the Plan.

During 2010, there were 13 new development plans submitted to New Castle County for review in the Route 40 corridor. This level of development activity is less than last year. A total of 18 major development plans submitted prior to 2010 remained under review. There are several existing and proposed developments with either current commitments for developer-funded roadway improvements or studies underway to determine which development commitments will be appropriate.

Safety trends were studied and based upon an updated crash analysis reporting system that was implemented this past year, causing the crash results to be inconsistent with past study years. The results will continue to be monitored in the future under this new system. Old Baltimore Pike was the only 2009 HEP site under study in the Route 40 Corridor. Short-term signing and striping improvements were implemented. Additional long-term improvements were recommended and their progress will continue to be monitored. There were three sites located within the Route 40 Corridor on the 2010 HEP list, including Porter Road, Salem Church Road, and a portion of Route 40 itself. The HEP review team has studied and recommended numerous signing, striping, signal and intersection improvements for each site. Their progress will be monitored.

Through the first six months of 2010, bus ridership in the Route 40 Corridor is up approximately six and a half percent when compared to the same period in 2009. Statewide ridership is up nearly five percent. There were no service changes in the corridor in 2010 and none are currently planned for 2011.

Most projects comprising Phase I of the Route 40 Plan are in some phase of concept design, final design, construction, or completion, though a number are on hold due to funding constraints.

There are no regional highway or transit projects planned that would trigger the need for improvements in the corridor. However, recently-completed

improvements to I-95 will be monitored to determine their potential impacts 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 2011.

Transit

- 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.

Planning, design, and construction

- Complete final design of SR 7 between Newtown Road and SR 273.
- To the extent funding can be made available, establish schedules for the following projects that are on hold:
 - Eden Square Connector (construction)
 - US 40 / SR 72 intersection improvements (final design)
 - 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 2010

Public involvement initiatives were limited during 2010 due to funding constraints. There were no public workshops held; however, project team representatives attended civic association meetings when requested.

The Route 40 Corridor project web site is updated regularly to provide the latest information on implementation of the Plan. The Web site contains information from newsletters, updates on project planning, design, and construction, and a schedule of public meetings and workshops. The web site can be accessed from the DelDOT Web site at:

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

Activities Planned For 2011

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 2011:

Web site—The Route 40 Web site 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 2011, 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—e-mail, mailing address, or telephone.

Table 5. Project Tracking Matrix.
Last updated December 2010

KEY: < N/A > - Not Applicable
TBD - To Be Determined

PROJECT COMPLETE
DESIGN COMPLETE - CONSTRUCTION
PROJECT ON HOLD

No.	Phase	Project	Status					Remarks
			Actual/ scheduled completion	Under study	Concept design complete	In final design	Under construction	
1		SR 7/SR 273 intersection	2000					
2		US 40/Walther Road intersection (short term)	2002					
3		US 40/Governors Square/Glendale Connector intersection	TBD					Part of Eden Square Connector (#13) - Final design complete, project on-hold
4		US 40/SR 72 intersection	TBD			X		Project on-hold - Preliminary Plans submitted
5		SR 72/Del Laws Road intersection	TBD			X		Project on-hold - Preliminary Plans submitted
6		US 40/Eden Square intersection	2000					
7		US 40/Buckley Boulevard intersection	2000					
8		SR 1/Newtown Road interchange	< N / A >					Project dropped from Plan
9		Church Road, US 40 to Wynnefield	2004					
10		SR 7, US 40 to Newtown Road	2006					
11		SR 7, Newtown Road to SR 273	2012			X		Advance utility work to begin in early 2011 - Construction expected to begin in late 2011
12		Reybold Road, SR 72 to Salem Church Road	TBD		X			Project delayed to Phase II or Phase III - Working with developers to construct portion of improvements
13		Eden Square Connector	TBD					Final design complete, project on-hold
14		Rue Madora	2002					
15		US 40 sidepaths, SR 72 to Scotland Drive	TBD	X				To be built with corresponding roadway segments
16		US 40 sidepaths, Scotland Drive to Salem Church Road	TBD	X				To be built with corresponding roadway segments
17		US 40 sidepaths, Salem Church Road to Church Road	TBD	X				To be built with corresponding roadway segments
18		US 40 sidepaths, Church Road to Walther Road	TBD	X				To be built with corresponding roadway segments
19	PHASE I 2000-2007	US 40 sidepaths, Walther Road to Governors Square	2005					Essentially complete - built by private developer
20		US 40 sidepaths, Governors Square to SR 1	TBD	X				To be built with corresponding roadway segments
21		Old Baltimore Pike sidepaths, SR 72 to SR 273	TBD	X				Subject to results of Old Baltimore Pike study (#39)
22		SR 72 sidewalks, US 40 to SR 71	TBD	X				Project delayed to Phase II or Phase III
23		Walther Road sidewalks, US 40 to Old Baltimore Pike	2008					
24		Porter Road bike lanes, SR 896 to US 40	2002					
25		Wilton Boulevard and Appleby Road sidewalks	2006					
26		Songsmith Drive sidewalks	2003					
27		Short-term improvements project	2000					
28		Enhancements to current transit service	2001					
29		Route deviation service along US 40	TBD					
30		Additional pedestrian connections to transit	2009					Part of bus stop improvements project (#31)
31		Additional bus stop improvements	2009					
32		Preservation and expansion of park and ride capacity	TBD					Project delayed to Phase II or Phase III
33		Waterford pedestrian access to US 40 bus stop	2003					
34	Access management on selected developed properties	< N / A >	X					Ongoing effort of site review team
35	Access management on properties as they are developed	< N / A >	X					Ongoing effort of site review team
36	Landscaping, streetscaping, and signing along US 40	TBD			X			Guide signs only - project delayed to Phase II or Phase III
37	Pleasant Valley Road/Frazer Road realignment study	2000						Realignment not recommended
38	Newtown Road transportation corridor	2003						Newtown Trail to be built (#81)
39	Old Baltimore Pike, SR 72 to SR 273	TBD						Project delayed to Phase II or Phase III
40	Glasgow Avenue "Main Street"	TBD						Project delayed to Phase II or Phase III
41	US 13 corridor study, SR 1 to Wilmington	TBD						Project delayed to Phase II or Phase III
42	SR 72 corridor study, US 40 to SR 1	2002						Implementation strategy not yet determined
43	SR 71 corridor study, SR 896 to US 13	TBD						Project delayed to Phase II or Phase III

Table 5. Project Tracking Matrix.
Last updated December 2010

KEY: < N/A > - Not Applicable
TBD - To Be Determined

PROJECT COMPLETE
DESIGN COMPLETE - CONSTRUCTION
PROJECT ON HOLD

No.	Phase	Project	Status					Remarks
			Actual/ scheduled completion	Under study	Concept design complete	In final design	Under construction	
44	PHASE I	US 40/Walther Road intersection (long term)	2005					Part of widening project (#45) - advanced from Phase II
45		US 40, Walther Road to Governors Square	2005					Built by private developer - advanced from Phase II
46		Scotland Drive extension to Porter Road	2004					Built by private developer - advanced from Phase III
47		Bear Area Pedestrian Improvements	2008					New project requested by Corridor Monitoring Committee
48		School Bell Road sidewalks/bike lanes	2008					Advanced from Phase II - Construction completed in October 2008
49	PHASE II 2008-2013	US 40/Pleasant Valley Road intersection		X				
50		US 40/Salem Church Road/Porter Road intersection		X				Part of US 40 environmental assessment
51		US 40/SR 1 southbound ramp intersection		X				Part of US 40 environmental assessment
52		US 40, SR 72 to Scotland Drive		X				Part of US 40 environmental assessment
53		US 40, Church Road to Walther Road		X				Part of US 40 environmental assessment
54		US 40/SR 896 interchange		X				Part of US 40 environmental assessment
55		US 40/SR 7 interchange		X				Part of US 40 environmental assessment
56		Old Porter Road, Porter Road to SR 71			X			Curve realignment to be built by private developer
57		US 40 sidepaths, SR 896 to SR 72		X				To be built with corresponding roadway segments
58		US 13 sidepaths, US 40 to Tybouts Corner						
59		SR 896 sidepaths, Porter Road to Old Baltimore Pike						
60		Salem Church Road sidewalks/bike lanes, US 40 to I-95						
61		Del Laws Road sidewalks						
62		Old County Road sidewalks, Frazer Road to Glasgow Avenue		X				Corridor study completed in 2005
63		Preservation and expansion of park and ride capacity (continued)		X				
64	Access management on selected developed properties (continued)							
65	Closure of all median openings that are not or will not be signalized						Ongoing effort of site review team and safety committee	
66	PHASE III 2014-2020	US 40/Scotland Drive intersection		X				Part of US 40 environmental assessment
67		US 40/SR 1 northbound ramp intersection		X				Part of US 40 environmental assessment
68		US 40/Glasgow Avenue intersection		X				Part of Glasgow Avenue study (#40)
69		US 40, Scotland Drive to Salem Church Road		X				Part of US 40 environmental assessment
70		US 40, Salem Church Road to Church Road		X				Part of US 40 environmental assessment
71		US 40, SR 896 to SR 72		X				Part of US 40 environmental assessment
72		US 40/US 13 interchange						
73		US 40 overpass at Norfolk Southern		X				Shellpot Bridge has reduced rail traffic at this location
74		SR 7, SR 71 to US 40						
75		SR 72, US 40 to Reybold Road						
76	PHASE III	Church Road, Wynnefield to SR 71		X				Concept design underway
77		Glasgow circulator roadways						
78		US 40 sidepaths, Maryland line to SR 896		X				Concept design underway
79		US 40 sidepaths, SR 1 to US 13						
80		Closure of all median openings that are not or will not be signalized (cont'd)						Ongoing effort of site review team and safety committee
81		Newtown Trail, Salem Church Road to SR 7	TBD			X		Project on hold



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