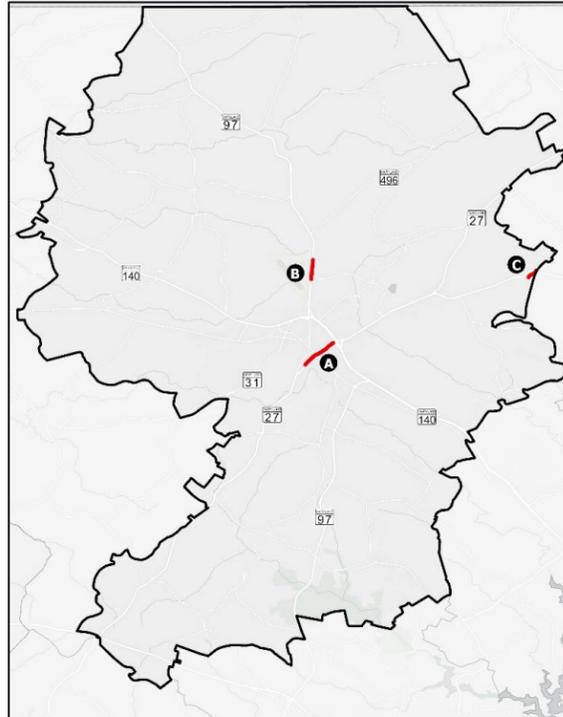


# Westminster

## Road Network

Westminster is the heart of Carroll County, located at the confluence of MD 27, MD 31, MD 32, MD 97, and MD 140. MD 32 is classified as a minor arterial through the subarea and MD 140 is classified as a principal arterial for its full length; Westminster’s other state roadways are classified as principal arterials in the developed parts of the subarea and minor arterials elsewhere. MD 27 provides access southwest to Mount Airy and northwest to Manchester and Hampstead. MD 31 provides access west to New Windsor and MD 32 provides access south to Eldersburg and Sykesville. MD 97 provides access south to Howard and Montgomery counties and north to Littlestown, Pennsylvania. Finally, MD 140 provides access southeast to Finksburg, Reisterstown, and the rest of the Baltimore metropolitan area and access northwest to Taneytown.



**Table 5.17 Recent and Committed Projects in the Westminster Area**

Location	Project	Status	Construction Cost
A	<b>MD 27 – Bicycle Retrofit</b> sidewalk enhancements along Railroad Avenue; Tuc Road to Hollow Rock Avenue	Completed 2019	\$2,900,000 Source: CTP
B	<b>MD 97 – Intersection Capacity Improvements</b> Intersection geometric enhancements along MD 97 south of Airport Drive to Pleasant Valley Road	Completed 2019	\$3,285,000 Source: CTP
C	<b>MD 482 – Roadway Realignment</b> of North Gorsuch Road at MD 482 (Hampstead Mexico Road)	Completed 2018	\$1,952,000 Source: CTP

## Land Use and Demographics

As the county seat, Westminster is the most significant commercial and industrial activity center for Carroll County, with Carroll County Regional Airport, Random House, Carroll Hospital Center, Carroll Community College, and McDaniel College all located in the area. The Westminster Subarea is expected to experience nearly half of all countywide growth over the next twenty years with most of the growth forecasted at the confluence of five major state roads which intersect near downtown Westminster.

As shown in Table 5.18, the largest area of population growth is predicted in the southeast quadrant at the junction of MD 97 South and MD 140. Job growth is expected to be most significant along MD 140 east of MD 27, which is a commercial corridor with existing space for lease. There is also some employment growth expected at the terminus of MD 32, where an assisted living facility associated with Carroll Hospital is planned. Some additional commercial and industrial employment growth can be expected just outside of downtown, due to steady commercial growth along major state roads and planned additions and improvements for the Carroll County Regional Airport, Tech Park.

**Table 5.18 Westminster Area Growth 2020-40**

Type	Growth	Percent
Population	4,571	7.8%
Workers	(953)	-3.1%
Employment	4,596	12.1%

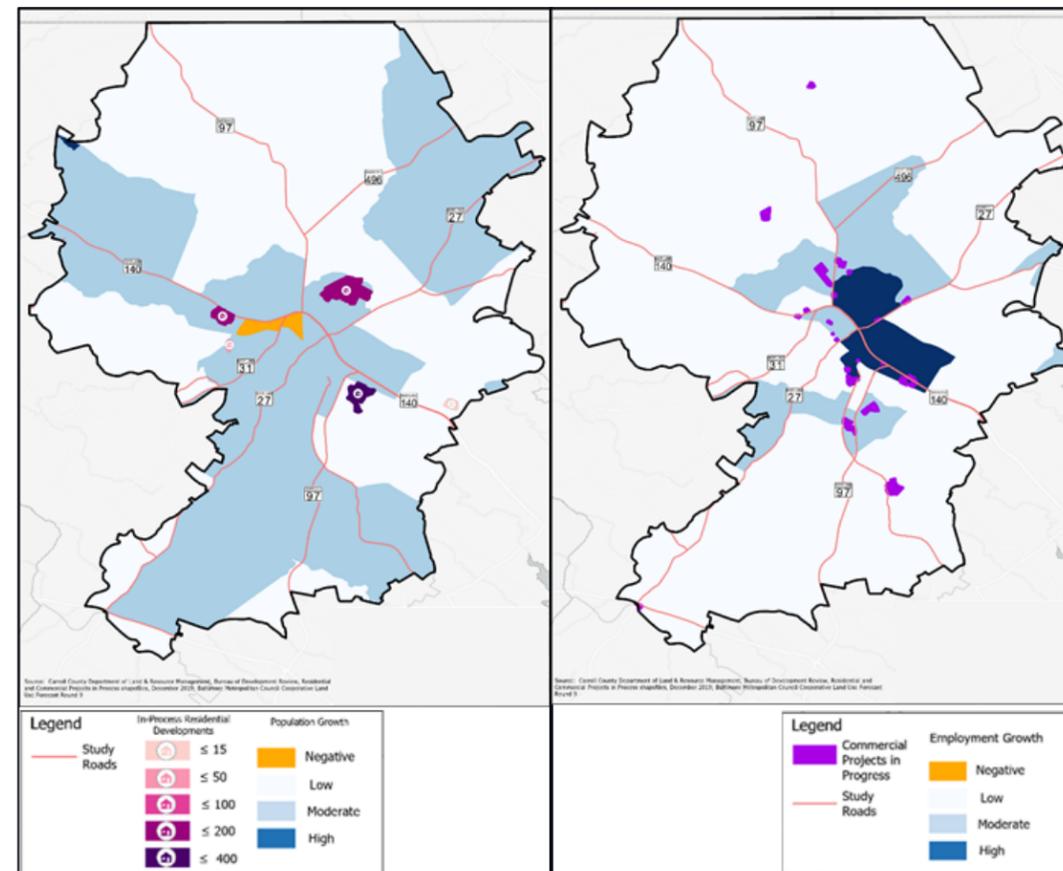


Figure 5.49 (left) Westminster Area In-Process Residential Developments and Population Growth 2020-40. Figure 5.50 (right) Westminster Area In-Process Commercial Developments and Employment Growth 2020-40.

## Commuter Flows

About 25% of Westminster residents work in Westminster and about 26% of Westminster workers are Westminster residents. Otherwise, residents work throughout the Baltimore and Washington regions with 14% working in the other Carroll County subareas and 19% working in Baltimore County. There is a sizable inbound worker flow to Westminster from Pennsylvania and Baltimore County.

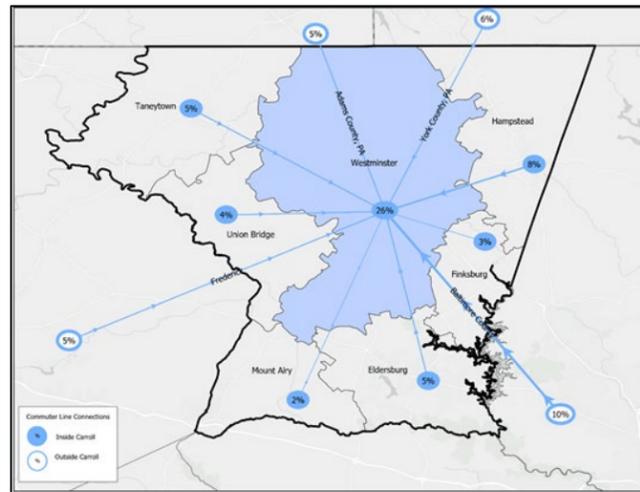


Figure 5.51 Commuting to Westminster

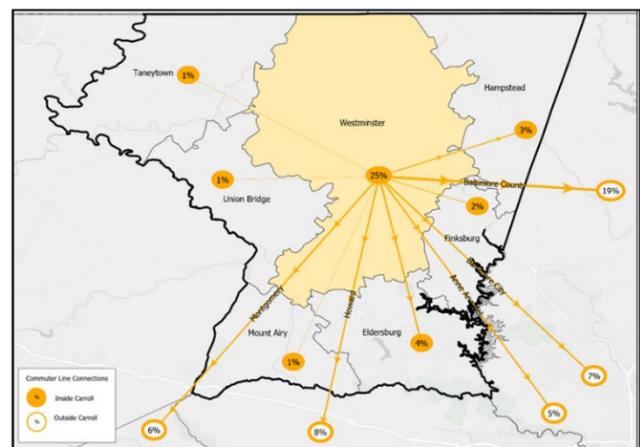


Figure 5.52 Commuting from Westminster

## Local Goals and Policies

Westminster is by far the largest and busiest locale in Carroll County as the County seat and owing to its location at the intersection of arterial roadways that provide access to all of the region's major job centers, (MD 140 to Baltimore, MD 97 to Howard and Montgomery Counties, and MD 27, 31, and 140 towards Frederick) as well as its nearly 40,000 local jobs.

From the 1962 Master Plan of Road Improvements to the early 2000s, an arterial bypass of Westminster was the key transportation goal for Carroll County. MD 140's present alignment was a bypass of the City of Westminster's historic downtown completed in 1952. The 1962 plan envisioned a further bypass, anticipated to be an expressway that would enter the County between Hampstead and Upperco, well to the north of Route 140, pass north of Westminster, then closely parallel Taneytown Pike before turning southwest south of Taneytown.

In the late 1980s and 1990s, through consideration of a number of northern and southern alternatives for a more limited bypass, the route was further pared back to a rerouting of MD 140 running between Hughes Shop Road and Reese Road.

In the 1990s, the County and City partnered to create a local road network with the potential to serve short trips and provide access to businesses north of Baltimore Boulevard while reducing demand on intersections along MD 140. The construction of Center Street, Market Street, and the Malcolm Drive extension north of MD 140 in the 1990s also spurred increased commercial development, especially on the north side of MD 140.

The County's current approach to transportation planning in Westminster is thus two-pronged: (1) major intersection improvements along MD 140 to increase total capacity between Market Street and Sullivan Road, and (2) strengthening the local "grid network" to provide alternative means of access to residential, commercial and industrial areas north and south of MD 140. These proposals could together cost nearly \$300 million and rely on uncertain state funding, development, and environmental assumptions.

The County's current Planned Roads and Improvements map envisions expanding this network by extending Malcolm Drive north of its intersection with Market Street to link to a future extension of Bennet Cerf Drive. The north end of this proposed network would intersect MD 97 just south of Carroll County Regional Airport to provide a local alternative to Westminster's most congested roadway corridor. The Carroll County Master Plan estimates these new roadways will have a combined cost of \$17 million.

Since 2001, the County's master plan of roadways has not included the Westminster Bypass. In its place are a series of recommendations developed from 2004 to 2006 for a corridor improvement project along MD 140 from Market Street to Sullivan Road that would include multiple continuous flow intersections (CFIs) and a single point urban interchange (SPUI) at Malcolm Drive and MD 140. These proposals have a combined estimated cost of \$271 million but have not progressed in any further concept or detailed design nor are funds allocated through the statewide Consolidated Transportation Plan (CTP) to do so in the next five years.

## Existing Traffic Conditions

Absent a bypass north of Westminster and a local road network connecting to MD 97 near the airport, MD 140/97 between Market Street and Sullivan Road must serve both eastbound/westbound MD 140 traffic northbound/southbound MD 97 motorists in one corridor—the most congested corridor in Carroll County.

From east to west, the intersections of MD 140 with Market Street, Malcolm Drive, Center Street, and Englar Road all operate at LOS D or worse during at least one peak hour. During the AM peak hour, the Market Street intersection has the longest average delay at around 73 seconds (LOS E), but that intersection operates at LOS C during the PM peak hour. During the AM peak hour, the Malcolm Drive intersection operates at LOS C, but it has the longest average delay during the PM peak hour at around 56 seconds (LOS E). During both peak hours, the Center Street intersection has the highest volume-to-capacity (V/C) ratio (0.76 during the AM peak hour and 0.91 during the PM peak hour).

Travel speeds along MD 140 through Westminster are variable but some segments experience typical AM peak hour speeds of 30-34 miles per hour and typical PM peak hour speeds of 25-29 miles per hour. Slower speeds are typical through Westminster's historic downtown, where travel on Main Street can drop below 15 miles per hour during the PM peak hour.

## 2040 Traffic Conditions with No Improvements

With anticipated growth and no improvements, traffic congestion will continue to degrade in Westminster. By 2045, all the study intersections along MD 140 will operate at LOS E or worse during at least one peak hour. The Market Street intersection's AM peak hour average delay will extend to 127 seconds (LOS F), while Center Street's PM peak hour average delay will extend to 121 seconds (LOS F) to eclipse the Malcolm Drive intersection as the most delayed in the evening.

The Malcolm Drive, Gorsuch Road, Ralph Street/Cranberry Road, Center Street, and Englar Road intersections will all have PM peak hour V/C ratios above 1. At Malcolm Drive, average northbound evening left turn delay will have lengthened from about 82 seconds to over 140 seconds. At Market Street, delay for eastbound through traffic—currently at LOS F with 98 seconds of delay—will more than double to 199 seconds.

## Planning Approaches

MD 140 through Westminster is not only the County's most congested corridor but also its most active commercial corridor. Therefore, an effective approach to mitigating congestion along MD 140 through Westminster must consider not only how much it would reduce travel times and intersection delay for those traveling through the City on MD 140 or MD 97, but how improvements could help motorists access local businesses. Within that framework, this analysis explored and evaluated at a high-level the cost/benefit, environmental and property impacts, and planning consistency of three "big picture" alternatives for MD 140 through Westminster.

The most conventional way to address a congested corridor is to add capacity, and this was the approach taken by the mid-2000s planning study's selected alternative of continuous flow intersections (CFIs) and a single-point urban interchange (SPUI) at Malcolm Drive. These improvements would lead to significant travel time savings but at a high cost—both in terms of dollars and businesses impacted. For \$271 million and eleven potential business displacements, the study's proposals would improve operations at the six study area intersections while maintaining all movements except for left turns and cross street movements at Gorsuch Road. As compared to no-build 2050 forecast conditions, construction of the SPUI would lead to about 15 average seconds less of peak hour delay along MD 140 approaches from Market Street to Englar Road, and less than one second of average delay reduction along the side street approaches. At the most congested intersection, Malcolm Drive, the SPUI would improve operations over their current state, reducing average delay to about 31 seconds in the AM peak hour and 46 seconds in the PM peak hour, but if constructed in isolation would cost upwards of \$40 million, potentially impact three businesses, and not yield any meaningful improvements at adjacent intersections.

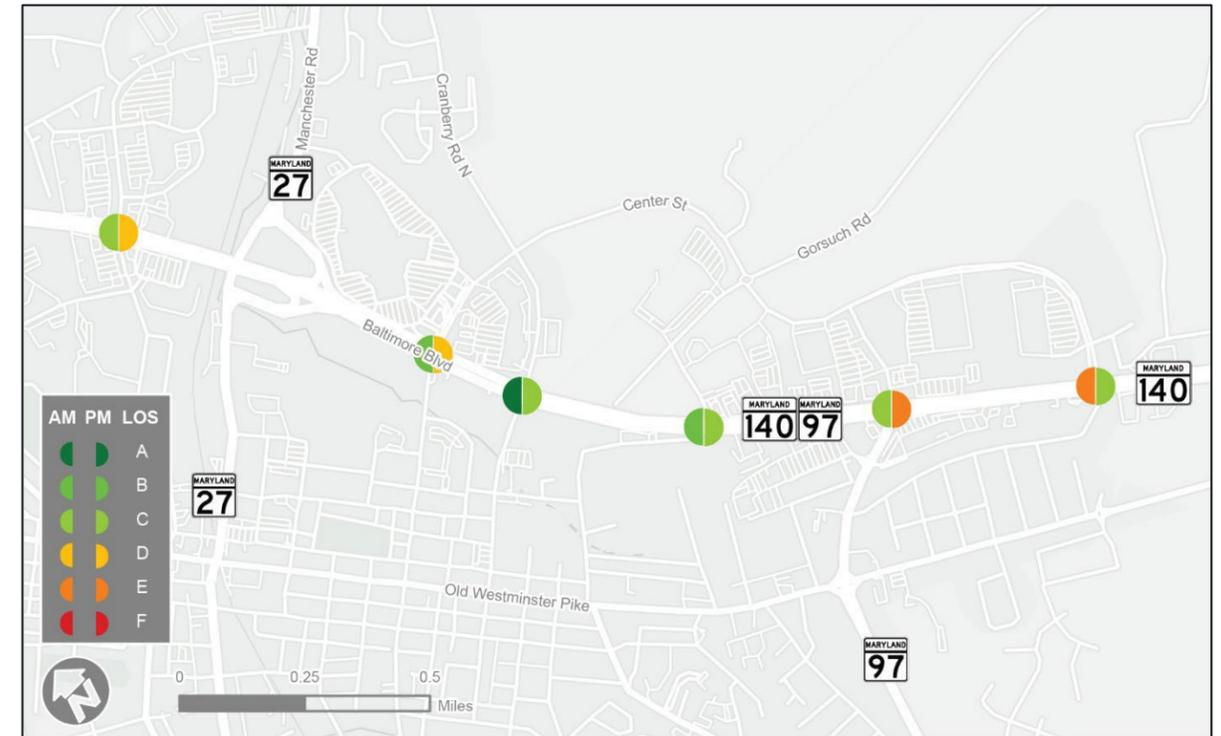


Figure 5.53 Westminster Existing Traffic Conditions

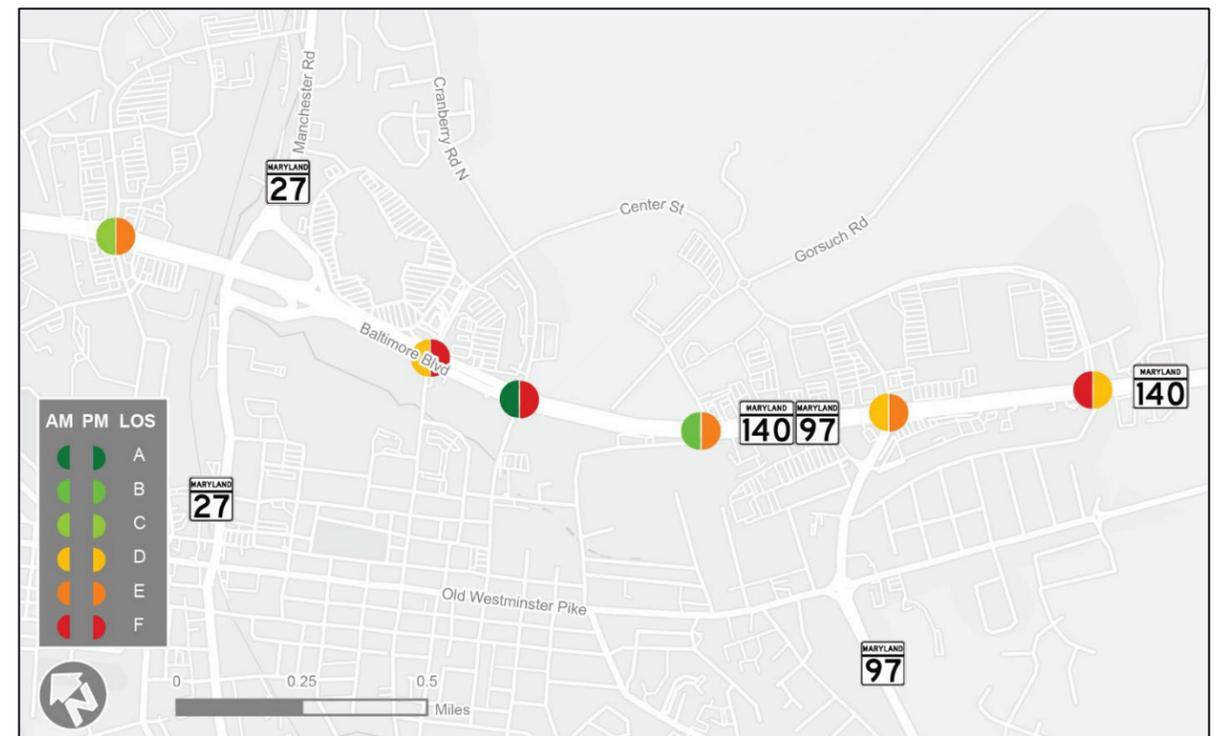


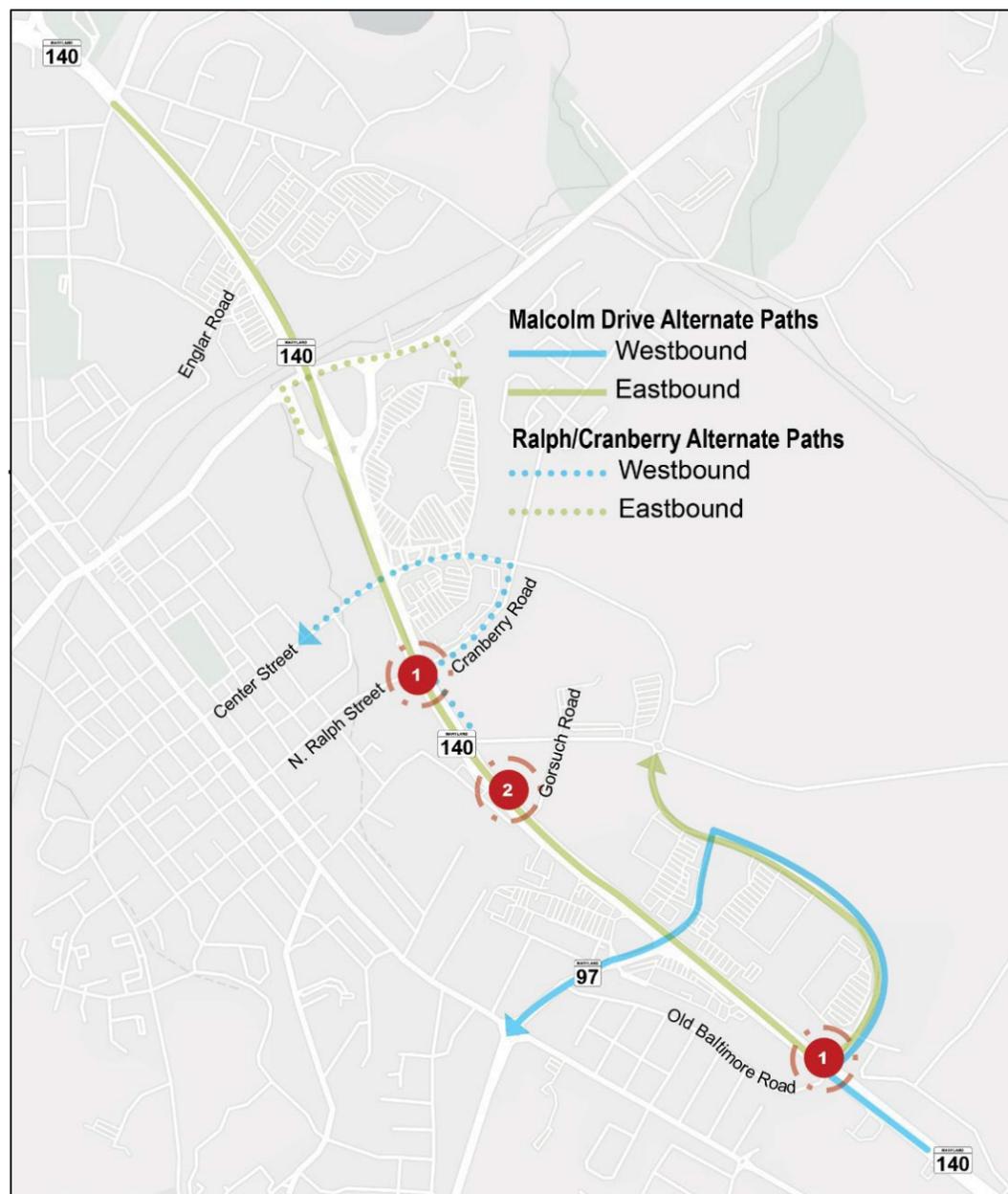
Figure 5.54 Westminster 2040 No-Build Traffic Conditions

## Planning Approaches Cont.

As an alternative to adding capacity along a roadway corridor, reducing demand for travel along a corridor can sometimes yield similar travel time savings at a lower cost and with less impacts to adjacent businesses, but the off-site improvements needed to reduce corridor demand can come with their own property and environmental impacts. In the case of Westminster, this approach has been thoroughly explored in the past through extensive study of a bypass and a variety of routes north and south of Westminster have been evaluated. This analysis also conceptually evaluated a more limited southern connector that would link MD 27 and MD 31 south of the City.

Finally, an approach that better matches existing roadway space with local traffic demand can help roadways and intersections operate as efficiently as possible. This strategy avoids most of the environmental and property impacts of major construction projects but can often reduce intersection delays throughout the corridor and yield significant travel time savings for through travelers. Therefore, this analysis tested a scenario using an alternative intersection design known as “quadrant roadways” that limited left turns off MD 140 at Malcolm Drive and Cranberry Road/Ralph Street.

This scenario would prohibit westbound left turns from MD 140 at Malcolm Drive and westbound left turns from MD 140 at Ralph Street. In these cases, the roadway network provided by MD 27, Center Street, Market Street, and Old Westminster Pike—which will be fully connected to MD 140 with the completion of the current Market Street extension—provides multiple routes that can accommodate motorists who currently make these turns directly off MD 140. In addition, this scenario incorporated one proposal from the 2006 planning study: conversion of the Gorsuch Road intersection to right-in/right-out access only.



## Recommended Approach

Limited state funding and possibly undesirable community impacts make major intersection and interchange improvements unlikely in the near future. Similarly, the costs and impacts of a full bypass of Westminster and of a more limited Southern Connector have been determined to outweigh the benefit they may provide; a southern connector may provide an alternative for some trips headed further west (towards Taneytown) or north (towards Pennsylvania) but would come at a significant environmental cost to farmland and wildlife areas.

In contrast, operational improvements in the short-term promise to achieve moderately high benefit for their (low) cost. Therefore, this analysis recommends pursuing investigation of a quadrant roadways approach. This set of lower cost improvements can be made primarily within the existing pavement and right-of-way—which significantly reduces project cost and complexity—but can still yield an impactful lessening of congestion and delay in Westminster. This approach may apply only during peak hours and may require median improvements.

Figure 5.55 Quadrant Roadways Approach to MD 140 in Westminster

**Table 5.19 Most Promising Potential Improvements for the Westminster Area**

#	Description	Justification	Potential Impacts (Y/N)			
			Right of Way	Stream Xings	Wetlands	Floodplain
1	<p>Create a <b>new through lane in each direction by prohibiting left turns off MD 140</b> at Malcolm Drive and Ralph Street/Cranberry Road and reallocate roadway space</p> <p><b>Cost: \$100K or Less</b></p>	<p>Left turns at these intersections can be accommodated by Market Street and Center Street, respectively. This will allow for more signal cycle time to be assigned to the dominant movements (through on MD 140 and left from Malcolm Drive onto MD 140), as well as provide more physical capacity for through traffic, increasing throughput and reducing queue lengths, without needing to widen the roadway or acquire right-of-way.</p>	N	N/A	N	N
2	<p><b>Convert the Gorsuch Road intersection with MD 140 to right- in/right-out only</b></p> <p><b>Cost: \$100K to \$250K</b></p>	<p>This will allow removal of the traffic signal at Gorsuch and MD 140, and removal of the left turn lanes will allow continuation of the space reallocation and median removal from Malcolm Drive past Gorsuch and Ralph Street/Cranberry Road to provide an additional through lane from just west of Market Street to Center Street.</p>	N	N/A	N	N

## Benefits and Impacts

Instituting left turn prohibitions at Malcolm Drive and Ralph Street/Cranberry Road, converting Gorsuch Road to right-in/right-out, and allocating the space reclaimed from left turn lanes to new through lanes would maintain today's congestion levels for approaches along MD 140 and major side streets even while traffic volumes increase by approximately fifteen to twenty five percent over the next 20 years. As compared to operations under 2050 no-build conditions, the approaches along MD 140 would average about 40 seconds of peak hour delay saved with the left turn restriction, while approaches along side streets would average about 30 seconds of additional delay.

Conditions would be moderately better at Malcolm Drive and Center Street (LOS D rather than today's LOS E during the PM peak at Malcolm Drive and LOS A rather than B at Center Street during the AM peak). Conditions would very moderately degrade at Market Street (LOS D rather than C during the PM peak) as compared to existing conditions. Only at Ralph Street/Cranberry Road would conditions significantly worsen as compared to existing conditions; AM peak hour LOS would drop from A to E, and PM peak hour LOS would drop from C to F.

These improvements would be low in cost, requiring minimal construction to adjust the roadway median and reconfigure the turn lanes as through lanes, and would not have any environmental impacts. However, this scenario would route more traffic onto the County and City roads that intersect and parallel MD 140, potentially increasing the County's and City's long-term maintenance burden.

Reducing congestion along MD 140 would have benefits far beyond the immediate corridor area. Most directly, it would ease travel between northern Carroll County and points south along MD 140, MD 32, and MD 97 by reducing delay through Westminster for motorists traveling these routes. This would reduce travel times for commuters but may also contribute to increased development pressure from Westminster north.

These improvements would also provide easier access from other areas of the County to the businesses concentrated in the corridor. Although two left turn movements that provide business access would be prohibited, the intersections where left turns would be prohibited in this scenario were selected to minimize impacts to business access and the travel time savings along Baltimore Boulevard would likely outweigh any additional delay incurred by turning prohibitions for most travelers.

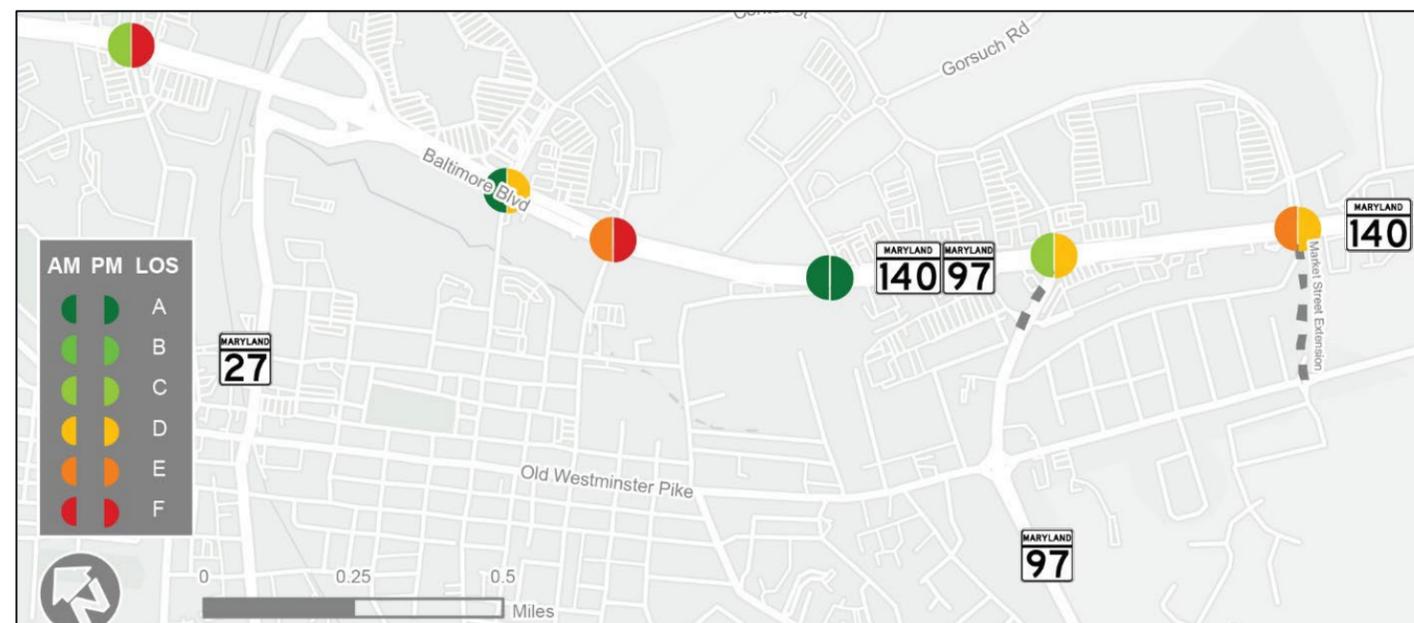


Figure 5.56 Westminster 2040 Traffic Conditions with Most Promising Potential Improvements