

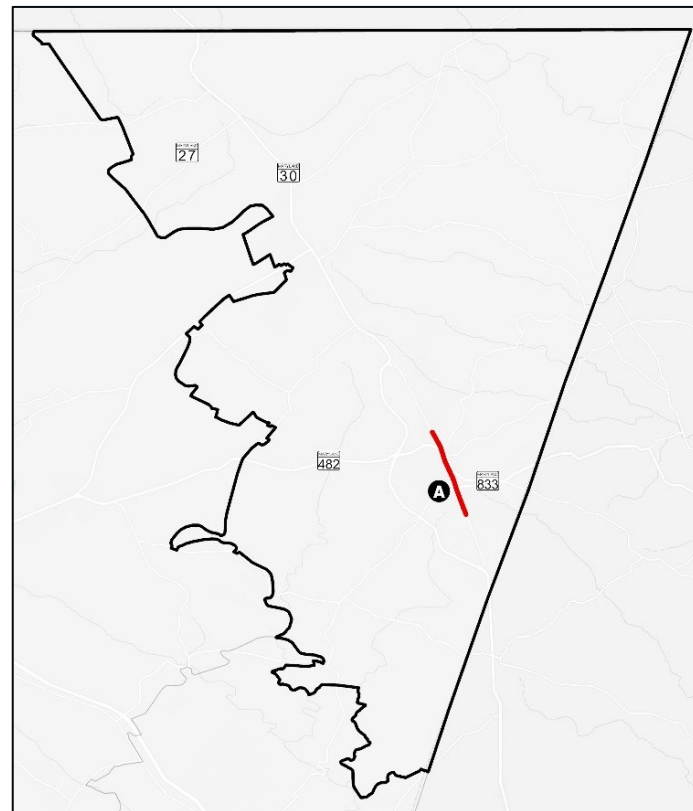
Hampstead/Manchester

Road Network

Hampstead and Manchester are located in the northeastern corner of Carroll County. MD 30, a principal arterial, traverses the two towns within the subarea in a north-south direction and provides access south towards Upperco and Reisterstown and north into Pennsylvania, where it continues as PA 94 towards Hanover. MD 482 and MD 27 intersect MD 30 in Hampstead and Manchester, respectively. Both are minor arterials through the subarea except for short segments near their intersections with MD 30, and both provide access west to Westminster.

Table 5.9 Recent and Committed Projects in the Hampstead/Manchester Area

Location	Project	Status	Construction Cost
A	MD 30 – Streetscape Improvements to improve roadway, drainage, and streetscape from North Woods Trail to CSX Railroad.	Completed 2020	\$27,400,00 Source: CTP



Land Use and Demographics

The Hampstead/Manchester Subarea contains two MGAs, Hampstead and Manchester, between which most of the subarea’s growth will be split.

Much of the development exists along the MD 30 corridor, contained within the boundaries of the Towns of Hampstead and Manchester. This trend is expected to continue; the subarea will see most of its population growth in the northern part of the MD 30 corridor in Manchester and most of its employment growth in the southern part of the MD 30 corridor in Hampstead, which is home to several corporate headquarters. There are also three large areas in Hampstead that have potential for industrial development, located north of MD 482 and west of Main Street, south of Houcksville Road and west of Main Street, and north of Trenton Mill Road and east of Main Street. Another pocket of population growth is expected to the east of the Hampstead/Manchester Subarea in Baltimore County, which may influence travel patterns within the area.

Table 5.10 Hampstead/Manchester Area Growth 2020-40

Type	Growth	Percent
Population	1,806	7.3%
Workers	(336)	-2.5%
Employment	1,032	12.2%

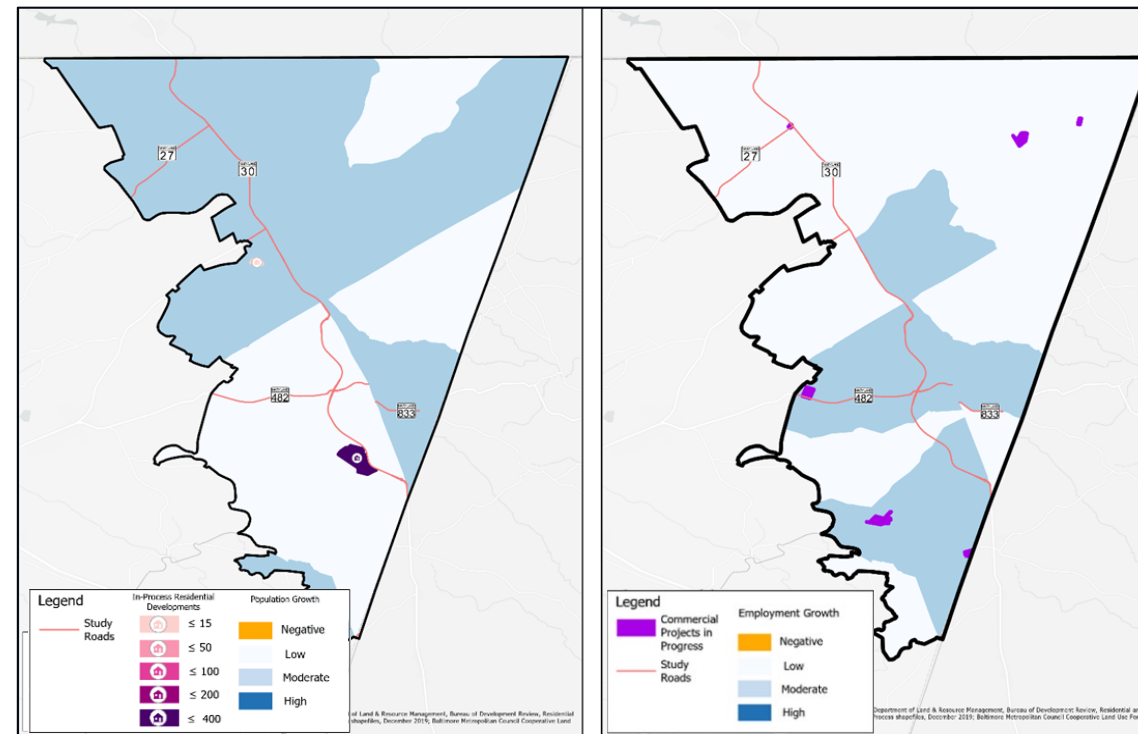


Figure 5.23 (left) Hampstead/Manchester Area In-Process Residential Developments and Population Growth 2020-40. Figure 5.24 (right) Hampstead/Manchester Area In-Process Commercial Developments and Employment Growth 2020-40.

Commuter Flows

Most Hampstead/Manchester Subarea residents work within either Carroll County or Baltimore County. Baltimore County is an attractive employment option for these residents due to its market diversity and close proximity; Owings Mills, which is a major employment center, is only a 20- minute drive away. Within Carroll County, a majority of Hampstead/Manchester Subarea residents work in Westminster; the subarea itself is a close second. The Hampstead/Manchester subarea workforce largely originates within Carroll County, mainly from Hampstead and Westminster. Other sizeable commuter flows come from Baltimore County and Pennsylvania.

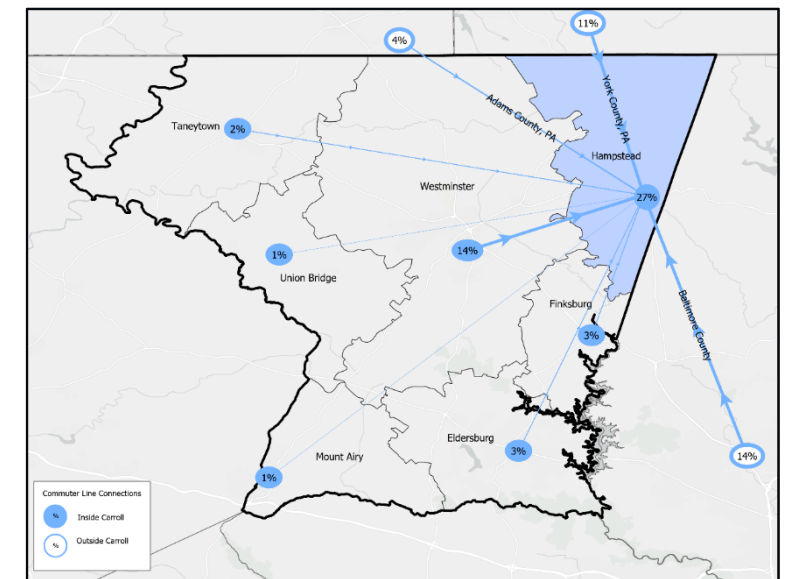


Figure 5.25 Commuting to Hampstead/Manchester

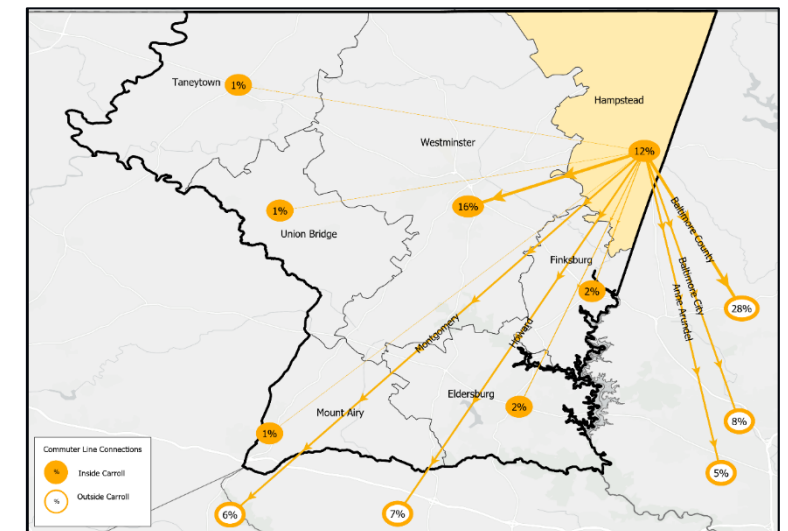


Figure 5.26. Commuting from Hampstead/Manchester

Local Goals and Policies

Since 1962, a relocation of MD 30 to the outskirts of Hampstead and Manchester has appeared on Carroll County’s master plan of roadways, but it was not until 2010 that the 4.2- mile Hampstead component was opened on an alignment west of the town. The project cost \$83 million and largely mitigated congestion through downtown Hampstead, which is returning to its Main Street “feel” with its recently completed streetscape project.

For a variety of planning and policy reasons, the Manchester portion of the bypass has not proceeded. While it is a longstanding priority for the Town of Manchester and the project is included in the 2014 County Master Plan as amended 2019, the Manchester Bypass is not included in *BMC’s Maximize 2045* transportation plan nor in the County’s most recent priority letter. Even if it were, it is questionable how well the project would fare in the Chapter 30 Transportation Project Scoring Model. As such, a \$406 million-Manchester Bypass could likely not pass through right-of-way acquisition, design, permitting and construction within the 20-year time horizon considered by this analysis.

Of key concern is that despite selection of the eastern alignment in 1991 to “identify and enable protection of the corridor from development,” no right-of-way has been transferred to the County—although no development has taken place that would appear to come in the way of the bypass. As the Manchester Comprehensive Plan states, “only those local communities who actively plan for and protect the pathways needed for future roadways reduce the risk and cost of having to live without them ... Local jurisdictions that do not protect planned road corridors undermine the credibility of their own official plans, create unnecessary difficulty for those land owners whose property is involved, and jeopardize the realization of an essential public transportation improvement.”

Moreover, as nearly all traffic on MD 30 north of Manchester is travelling to and from Pennsylvania, the bypass plan calls for a County and State expenditure of \$406 million that would primarily facilitate travel for out-of-state commuters and only indirectly benefit Manchester residents.

In the absence of action to advance the Manchester Bypass, the Town Comprehensive Plan calls for “Carroll County and MDOT [to] take the lead in completing a comprehensive study to...address downtown traffic congestion on MD 30.” As traffic volumes along MD 30 from Pennsylvania continue to grow, the County should consider whether to make an expensive improvement that will induce more traffic into the subarea from the north and release Hanover Pike roadway capacity for local trips or make comparatively inexpensive strategic connections and intersection improvements within the Town and its environs to directly increase mobility for local residents without further facilitating through travel from north of the Mason-Dixon line.

Existing Traffic Conditions

MD 30 through Manchester experiences increased travel times southbound in the AM peak hour and northbound in the PM peak hour. In the AM peak hour, speeds are lowest on the segment between MD 86 and MD 27, averaging 19 miles per hour and occasionally dropping below 10 miles per hour in the southbound direction. In the PM peak hour, speeds are similarly low northbound on the segment between Cape Horn Road and MD 27.

Despite the slow travel speeds along MD 30 in Manchester, intersection delay along MD 30 is low; average AM southbound delays were about 11 seconds at MD 27, 12 seconds at Westminster St/York St, and 7 seconds at Maple Grove Road, and average PM northbound delays were about 7 seconds at Maple Grove Road, 15 seconds at Westminster St/York St, and 12 seconds at MD 27.

In contrast, the Westminster St and York Street approaches to MD 30 both operate at LOS D during the AM and PM peak hours, with average delays exceeding 50 seconds. The MD 27 approach to MD 30 operates at LOS E in the AM peak hour and F in the PM peak hour, with average delays exceeding 60 seconds in the AM peak hour and 300 seconds in the PM peak hour, and the Sheetz approach to MD 30 operates at LOS F in both peak hours, with average delays exceeding 80 seconds.

Finally, the intersection of Westminster Street with MD 27 experiences minimal mainline delay—less than 0.5 seconds during the AM peak hour and less than 2 seconds during the PM peak hour—but around 20 seconds of delay (LOS C) in the Westminster Street southbound approach and 30 seconds of delay (LOS D) in the Westminster Street northbound approach during the AM and PM peak hours.

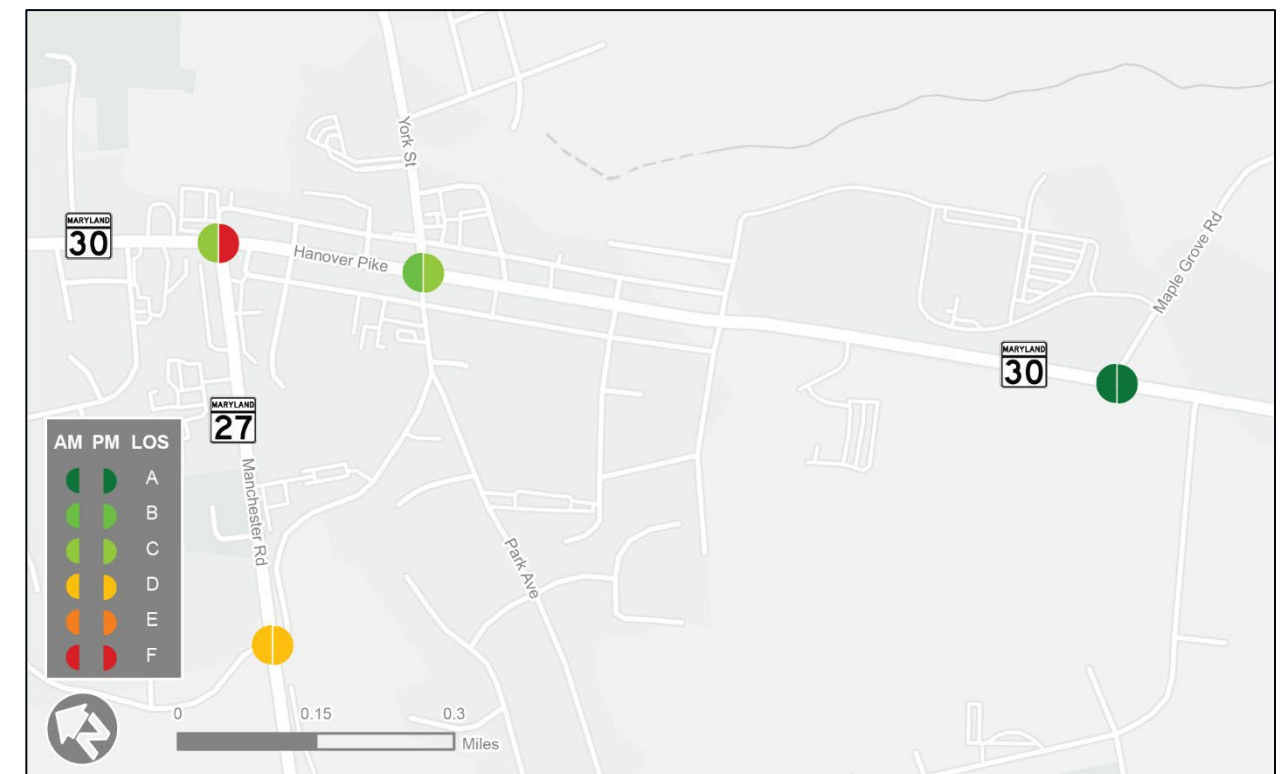


Figure 5.27 Manchester Existing Traffic Conditions

2040 Traffic Conditions with No Improvements

Regional travel forecasts estimate that 981 new households could be built in the subarea over the next twenty years, most of which would occur in Manchester; of the forecasted 1,032 new jobs, most are projected to occur in the Hampstead part of the subarea. In addition, York County population projections estimate a population increase of more than 7,000 (or about 17.5%) in the PA 94 corridor between MD 30 at the Mason Dixon Line and Hanover. These two factors mean that traffic conditions along MD 30 in the Hampstead/Manchester area are projected to moderately worsen without any transportation improvements.

Planning Approaches

A bypass of Manchester would accomplish two of the most important objectives and recommendations in the 2018 Manchester Comprehensive Plan: reducing traffic congestion along MD 30 and improving economic development of the downtown commercial area by making it a desirable place to spend time rather than a thoroughfare that primarily functions as an arterial route for commuters to and from points north. This approach has the benefit of directly addressing the problem of commuter traffic by removing it from the downtown area, but does have potential drawbacks including cost and environmental constraints, possible increased development pressure near the bypass's proposed access points, and a reduction in pass-by business for Main Street establishments.

While the Manchester Bypass would be designed to remove commuter traffic from the Hanover Pike, an alternate approach is to focus effort and investments on improving quality of life for residents by focusing on strategic local connections that provide alternate routes between their communities and local destinations. This would minimize residents' need to traverse the most congested intersections along MD 30, including MD 27 and York Street.

Recommended Approach

Considering the significant cost of the bypass, environmental constraints, and the lack of dedicated right of way associated with the Manchester bypass, it is unlikely that it could be constructed within the 20-year time horizon of this analysis. Even if the above issues could be resolved, it is questionable whether such investment is in the best interest of the County as the bypass would simply make it easier to develop properties further north (outside of the Manchester DGA or in Pennsylvania).

Therefore, the recommended approach is improvements that prioritize the mobility needs of Manchester residents rather than through commuters, and support the Town's goal to improve vehicular, bicycle, and pedestrian travel within its borders.

Building out the local road network effectively requires a delicate balance of improving access for local residents without encouraging through commuters to "cut through" residential streets in avoidance of congestion along Main Street. The best way to do this is to pair enhancements along MD 30 with local access improvements to reduce the likelihood through motorists will divert off MD 30. In the case of Manchester, adding a second southbound turn lane at MD 27 and restriping Main Street to provide left turn bays at Westminster Street/York Street and New Street/Beaver Street will provide additional accommodation for through motorists.



Figure 5.28 Manchester 2040 No-Build Traffic Conditions

Table 5.11 Most Promising Potential Improvements for the Hampstead/Manchester Area

#	Description	Justification	Potential Impacts (Y/N)			
			Right of Way	Stream Xings	Wetlands	Floodplain
1	Provide a signalized left-turn lane from MD 30 to Westminster Street Cost: \$100K or Less	To be constructed in conjunction with traffic calming along Westminster Street and at the Westminster Street/Park Avenue intersection. In the northbound direction, this will provide more reliable access to residential communities on the west side of town, institutions such as the US Post Office and St. Bartholomews Church, as well as Maiden Lane, which functions as a service roadway for businesses and residences on the west side of MD 30. In the southbound direction, this will provide more reliable access to Long Lane, Manchester Elementary School, multiple churches, Town offices, and parks.	N	N/A	N	N
2	Widen intersection of MD 27 at MD 30 Cost: \$1M to \$2.5M	From MD 27 to MD 30, providing a separate right turn lane, a shared through-left, and a left turn lane, and widen MD 30 north of MD 27 to provide a second northbound lane for a short distance will improve access into the center of Manchester for motorists on MD 27 by separating them from northbound travelers.	Y	N/A	N	N
3	Extend Southwestern Avenue to MD 30 to create a four-way intersection or roundabout with Maple Grove Road Cost: \$5M to \$10M	This improvement would provide a new signalized access to residential communities in the southwestern quadrant of Manchester, reducing demand for left turns at Westminster Street, and would also enhance access to Maple Grove Road, potentially reducing Manchester Valley High School traffic impacts on MD 30.	Y	1	N	N
4	Slightly widen the northbound approach to MD 30 at New Street to provide a dedicated left turn lane; consider closing High Street or prohibiting left turns to/from High Street. Cost: \$100K or Less	This will facilitate access to New Street, High Street, Wertz Road, Maiden Lane, Hideout Drive, and Michael Drive. Impacts to through traffic would be mitigated by restricting left turns at High Street during daytime hours.	N	N/A	N	N
5	Convert the intersection of MD 27 at Westminster Street to a roundabout. Cost: \$1M to \$2.5M	In combination with a new signalized left-turn onto Westminster Street from northbound MD 30, this will enhance access to the residential communities north of MD 27 and west of MD 30, allowing them to bypass the MD 30/MD27 intersection.	N	N/A	N	N

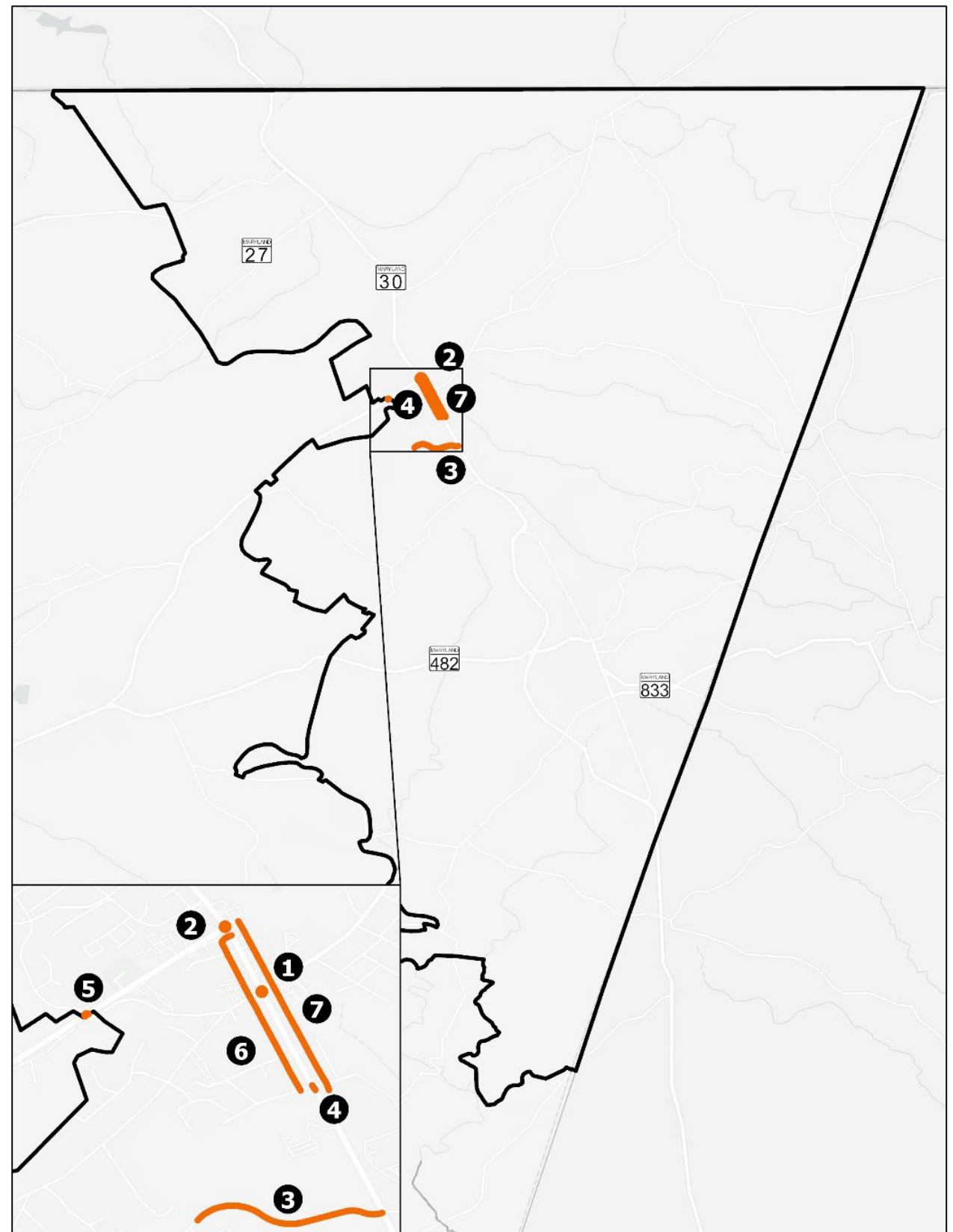


Figure 5.29 Most Promising Potential Improvement in the Hampstead/Manchester Area

6-7	Upgrade Maiden and Long Lanes , which run parallel to MD 30 30 Cost: TBD	Providing better access (including parking) to businesses and residences on MD 30 will support recommendations 2 and 4 and facilitate the use of Maiden Lane and Long Lane rather than MD 30 for local trips.	Y	N/A	N	N
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Benefits and Impacts

Together, this analysis' proposals for Manchester will better connect the roadway network parallel to MD 30, reducing residents' need to travel through Main Street's most congested intersections and lessening the time it takes to visit local destinations. Removing these local trips from MD 30 will also have benefits for through motorists, who will encounter less local traffic while traveling through Manchester.

Although this set of proposals is specifically targeted to address local transportation needs, if constructed it would also improve travel for commuters from north of Manchester and facilitate travel between Manchester and Westminster.

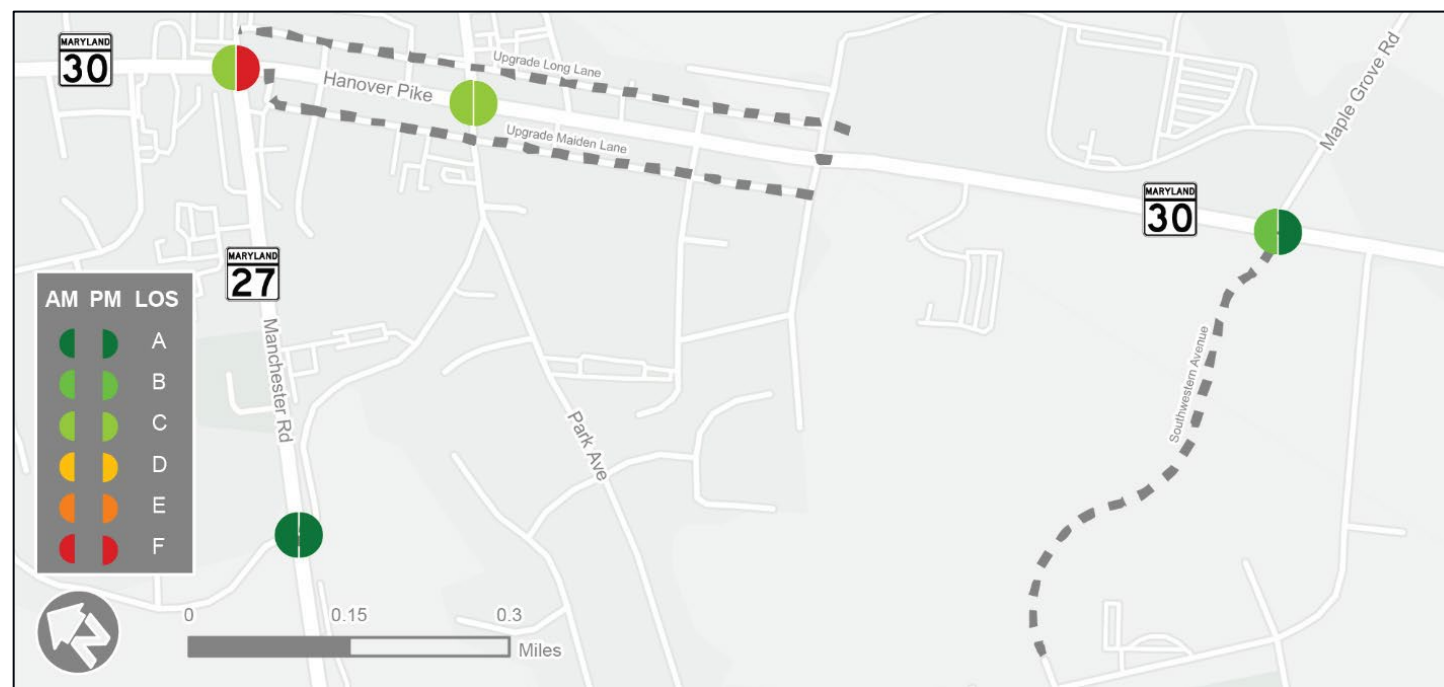


Figure 5.30 Manchester 2040 Traffic Conditions with Most Promising Potential Improvements



Figure 5.31 MD 27/Westminster Street Roundabout Concept

Mount Airy

Road Network

The Mount Airy sub-area, which includes the Town of Mount Airy, is located in southwestern Carroll County, bordered by Frederick County to the west, Montgomery County to the south, and Howard County to the south and east. This subarea is home to Carroll County’s only Interstate highway, a 1.6-mile segment of I-70. The MD 27 interchange with I-70 provides access from the subarea west to Frederick and east to Ellicott City and the rest of the Baltimore metropolitan area. MD 27 itself is a principal arterial from I-70 north to the boundary of the Mount Airy municipality and is a minor arterial elsewhere. North of Mount Airy, MD 27 continues to Westminster and Manchester, while to the south it provides access to Damascus, Germantown, and the I-270 corridor in Montgomery County. Finally, MD 26 intersects MD 27 in the northern part of the subarea and provides access east to Eldersburg and west into Frederick County.

Mount Airy’s growth and development has been linked to access to job centers in all directions. Today, nearly two-thirds of Mount Airy residents who commute work outside of Carroll County. The construction of I-70 south of Mount Airy in the 1950s and the relocation of Ridge Road to its present alignment east of Downtown in the 1970s improved access in these directions but also concentrated traffic onto those arterials, with the result that traffic volumes are highest on MD 27 approaching I-70 and travel between I-70 and all of the Mount Airy area depends on how well those corridors operate.

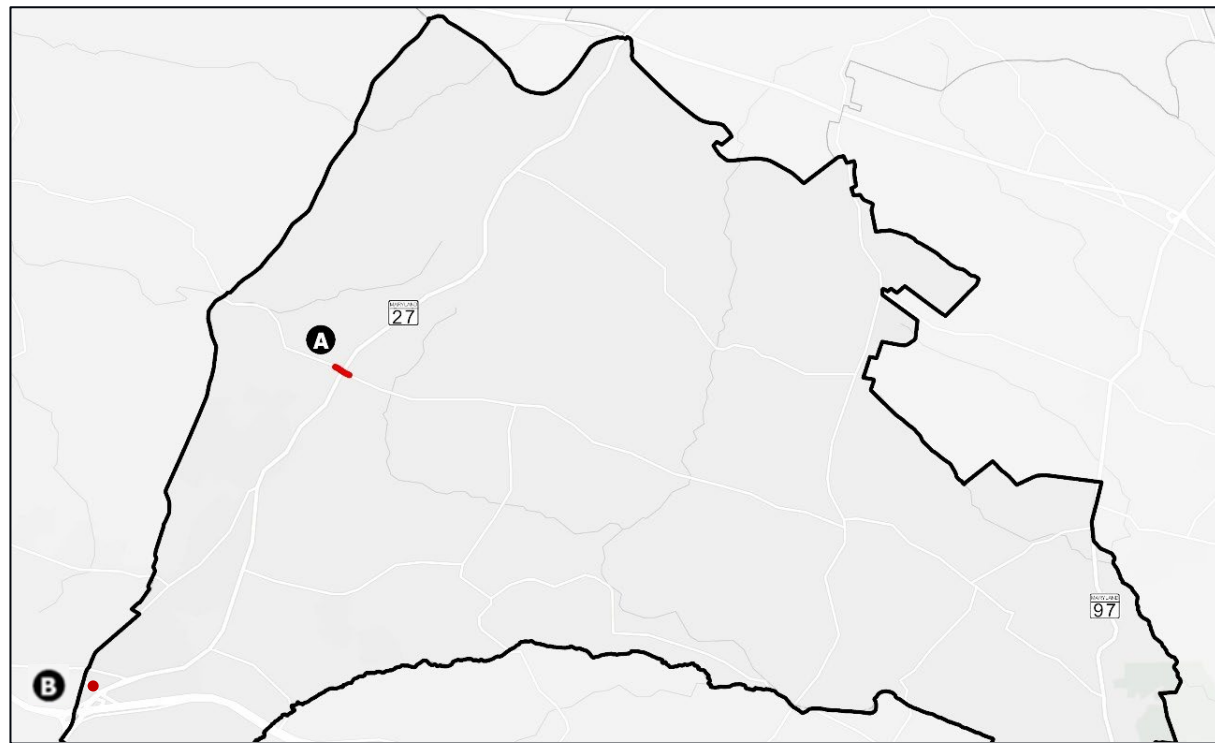


Table 5.12 Recent and Committed Projects in the Mount Airy Area

Location	Project	Status	Construction Cost
A	MD 27 – Roadway Realignment of MD 27 (Ridge Road) intersection, Gillis Falls Road and Harrisville Road	Completed Winter 2020	\$2,179,000 Source: CTP
B	Ridgeside Drive onto South Main Street	Completed	

Land Use and Demographics

The Mount Airy subarea has the second highest projected growth rate of the six subareas of Carroll County (Table 5.13).

Population and housing growth are expected in the northern parts of the Mount Airy DGA, with the majority along MD 27, and additional growth in the northeastern quadrant of the subarea. Employment growth is likely to concentrate in Downtown Mount Airy and on the corridors leading to downtown, as outlined in the 2013 Mount Airy Master Plan.

Some of the downtown growth is predicated on continued buildout of the new Twin Arches Business Park and accompanying communities, located in the eastern part of the Mount Airy DGA. Also significant to employment growth in this area are the Harrison and Leishear properties, containing approximately 160 acres of future Office Park Employment zoning bordering MD 27 and Watersville Road in the town’s municipal growth area. While there are other residential and commercial developments throughout the subarea, none are expected to have significant impact on overall population or employment.

Table 5.13 Mount Airy Area Growth 2020-40

Type	Growth	Percent
Population	1,395	8.2%
Workers	(185)	-2.0%
Employment	871	12.2%

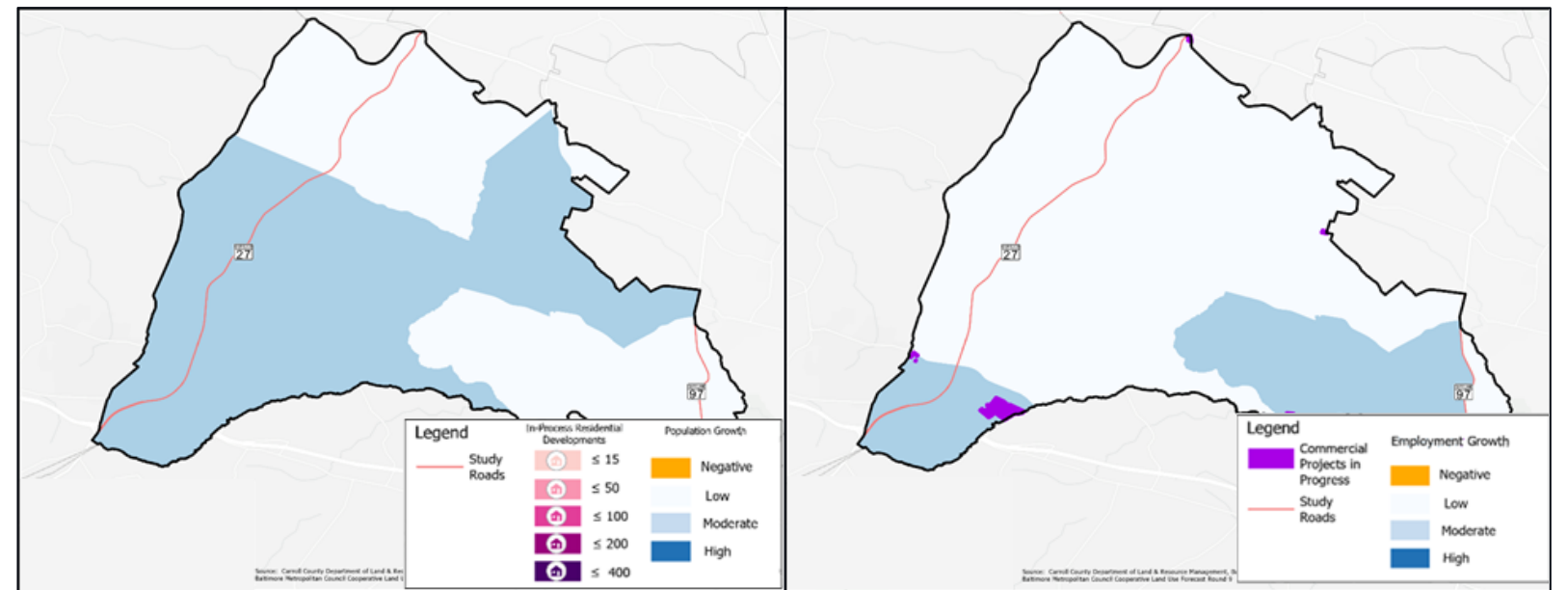


Figure 5.32 (left) Mount Airy Area In- Process Residential Developments and Population Growth 2020-40. Figure 5.33 (right) Mount Airy Area In-Process Commercial Developments and Employment Growth 2020-40.

Commuter Flows

Mount Airy is located at the center of a four-county area and about an hour from both Baltimore City and Washington, D.C. Accordingly, its residents have access to both the Baltimore and Washington metro area job markets. There are notable commuter flows to Baltimore County, Baltimore City, Frederick County, Howard County, and Montgomery County. In fact, more Mount Airy residents work in these counties than in Carroll County. While Mount Airy workers come from all over the region, the most significant portion come from Frederick County, which shares part of the Mount Airy municipality with Carroll County.

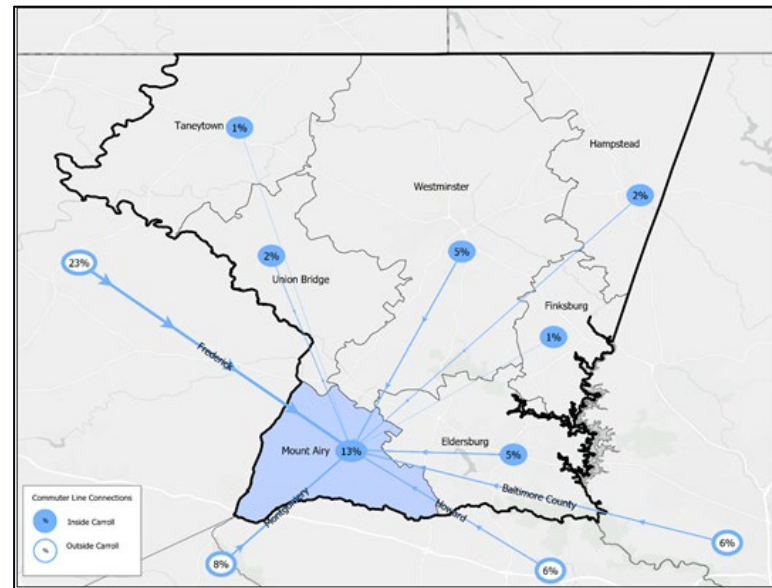


Figure 5.34 Commuting to Mount Airy

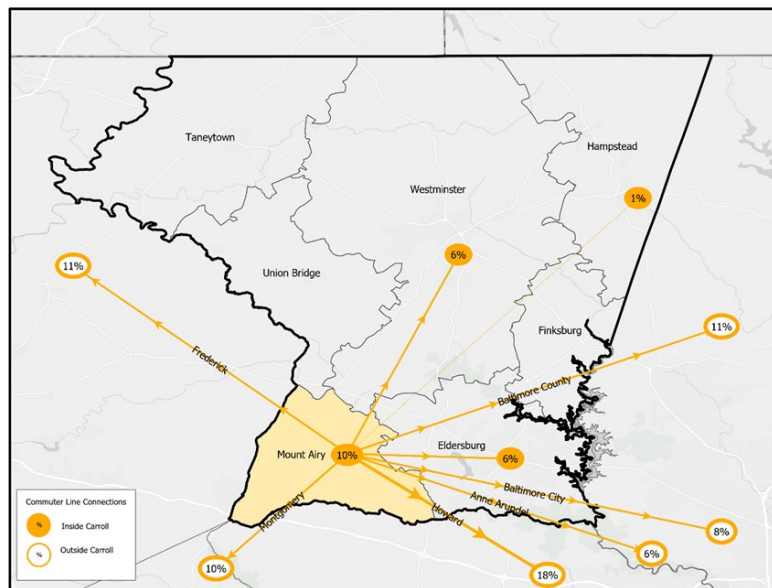


Figure 5.35 Commuting from Mount Airy

Local Goals and Policies

Mount Airy’s comprehensive plan seeks to “address existing and future congestion levels and create opportunities for increased connectivity.” Main Street provides an important connection through Downtown and to homes on the west side of Mount Airy. It carries significant peak hour traffic and experiences delay, especially south of Ridgeville Boulevard, but has not received any recent significant improvements to improve traffic operations.

To address future congestion and provide for increased connectivity, the Town’s comprehensive plan identifies several key roadway connections intended to manage demand for north-south travel on Main Street and Ridge Road, including proposed extensions of Rising Ridge Road north to Buffalo Road, Century Drive north to Watersville Road, and opening to through traffic the southern segment of Rising Ridge Road between Ridgeville Boulevard and South Main Street.

The Rising Ridge Road extension to Buffalo Road and the Century Drive extension to Watersville road have been envisioned as funded by future development, while the extension of Rising Ridge Road south to Main Street has been constructed for over ten years but remains closed with a concrete curb to prevent through travel along the southern segment of Rising Ridge Road.

Finally, completion of Center Street through from Main Street to MD 27 to ease access to downtown Mount Airy without creating additional pressure on South Main Street has been intended since the 1990s and has been variously proposed as a signalized intersection and as an overpass with two roundabouts for access to MD 27, but the Beck Property (across which the new connection would be made) remains undeveloped and thus the new roadway has not yet been constructed.

To address existing congestion along MD 27, incremental improvements have been made over past ten years, including an extension of the four lane section from Ridge Avenue to Park Avenue/Twin Arch Road in conjunction with intersection improvements at the park-and-ride lot, Twin Arch Road, and Center Street (2011), a new northbound right turn lane at Center Street (2014), and realignment of the Gillis Falls Road/Harrisville Road intersection including the addition of left turn and deceleration lanes (2019-20). These improvements have helped to address capacity constraints and operational challenges along MD 27, but the road has continued to experience congestion and delay during the AM and PM peak hours.

Existing Traffic Conditions

Moderate congestion and intersection delay occurs along MD 27 through Mount Airy in the AM and PM peak hours; all signalized intersections except for along MD 27 operate at LOS C or better during both peak hours except for the Park Ave/Twin Arch Road intersection, which operates at LOS D during the PM peak hour. Travel speeds of 35-44 miles per hour in the morning and 30-34 miles per hour in the evening along MD 27 are typical. However, all of the side street approaches from Ridgeville Boulevard north along the corridor operate at LOS D or worse during at least one peak hour.

Congestion also occurs at the intersection of Ridgeville Boulevard and Main Street; that intersection operates at LOS D during the AM peak hour—largely driven by delay in the eastbound direction—and LOS C during the PM peak hour. Peak hour travel speeds along South Main Street tend to be 20-24 miles per hour in the northbound direction and 25-29 miles per hour in the southbound direction.



Figure 5.36 Mount Airy Existing Traffic Conditions

2040 Traffic Conditions with No Improvements

Without improvements, by 2040 traffic conditions along MD 27 are anticipated to remain acceptable; northbound and southbound approaches will all continue to operate at LOS C or better except for the southbound approach at West Watersville Road, which is anticipated to operate at LOS D during the AM peak hour. However, side-street approaches will continue to operate poorly; except at the South Main Street/I-70 ramp intersection, all eastbound and westbound approaches to MD 27 intersections through Mount Airy will operate at LOS D or worse during at least one peak hour. The eastbound and westbound approaches at Park Ave/Twin Arch Road will continue to operate at LOS F during the PM peak hour, and the eastbound approach at North Main Street/Leishear Road will continue to operate at LOS F during both peak hours.

These conditions are appropriate for MD 27's bypass function; maintaining low delay for northbound and southbound motorists encourages them to use MD 27 for through travel, while the higher delays on the eastbound and westbound approaches discourage motorists from using MD 27 for local trips if an alternative is available, keeping capacity available for through travelers.

At Main Street/Ridgeville Boulevard, conditions will degrade to LOS E during both the morning and evening. During both peak hours, delays motorists will encounter more than two minutes of delay in the eastbound direction. The LOS for that approach will be F and the V/C ratio for that approach will exceed 1.2 during both the AM and PM peaks. All other approaches will operate at LOS C or better during the AM peak hour and LOS D or better during the PM peak hour.

Planning Approaches

Broadly speaking, the two local approaches Mount Airy can take to address the impacts of Ridge Road congestion on residents' travel needs are improving MD 27 intersections to make it more attractive for local trips or improving parallel routes to local destinations so that MD 27 remains reserved for trips bypassing the center of Mount Airy. Advantages of the former strategy are that it most directly addresses conditions at the most congested intersections, environmental and right-of-way constraints are likely to be lower, and that it provides direct travel benefits for motorists from points north such as Westminster and New Windsor. In comparison, advantages of the latter strategy are that it directly improves residents' access to local destinations while reducing their need to travel on Ridge Road, and that it would not induce additional trips onto MD 27.

Alternatively, the County could pursue a strategy that encourages motorists from north of Mount Airy to access I-70 via MD 94 (Woodbine Road) instead of MD 27. Completed improvements at MD 27 and Gillis Falls Road/Harrisville Road provide easier and more reliable access to Gillis Falls Road, which connects to Woodbine Road about 3 miles north of I-70. Leveraging these improvements with strategic geometric improvements along Gillis Falls Road and Woodbine Road could induce some motorists to avoid the Mount Airy area altogether.

Recommended Approach

Improvements proposed in Mt. Airy should support throughput on MD 27, avoid encouraging use of MD 27 for short trips, and **provide alternate routes for trips stemming from development on the east side of Mount Airy** so that those short trips will not occupy MD 27 capacity needed for the road to effectively perform its bypass function. In addition, the County should **explore how minor improvements along MD 94 could ease some of the through traffic along MD 94.**

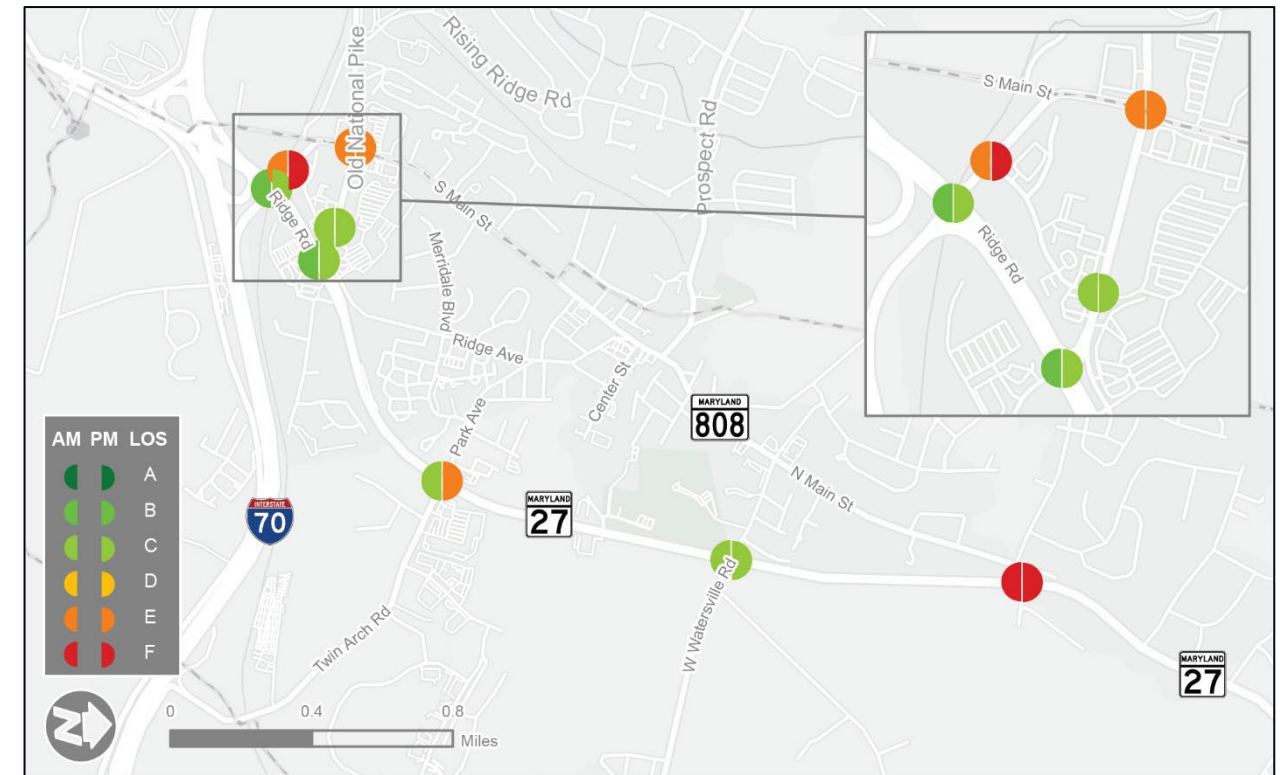


Figure 5.37 Mount Airy 2040 No-Build Traffic Conditions



Figure 5.38 Most Promising Potential Improvements in the Mount Airy Area

Table 5.14 Most Promising Potential Improvements for the Mount Airy Area

#	Description	Justification	Potential Impacts (Y/N)			
			Right of Way	Stream Xings	Wetlands	Floodplain
2	South Main Street Roundabout. Construct a one-lane roundabout with a northbound slip lane at the bend in South Main Street Cost: \$1M to \$2.5M	In conjunction with the turn restriction at Ridgeside Drive, this will reduce weaving along South Main Street, meter traffic approaching the Ridgeville Boulevard intersection, and provide for easier access to Main Street and Ridgeville Boulevard from Rising Ridge Road and South Main Street south of the proposed roundabout.	N	N/A	N	N
3	Construct the Century Drive extension north to West Watersville Road Cost: \$1M to \$2.5M	This will allow residents of the hundreds of homes along West Watersville Road to access the Twin Arch Shopping Center and Business Park without needing to use Ridge Road, releasing capacity along Ridge Road for medium-distance trips.	Y	0	N	N
5	Extend Center Street east of MD 27 to Century Drive Extended Cost: \$10M to \$25M	This will provide access between the Main Street area and the Twin Arch Business Park	Y	1	N	Y
2, 4	Construct the Center Street extension between Main Street and MD 27 Cost: \$10M to \$25M	This will enhance the local street grid and allow for better access onto MD 27 from the Main Street area, reducing demand for through travel along Main Street and Park Avenue.	Y	2	N	Y
N/A	Explore minor improvements along MD 94 to facilitate trips bound for north of Mt. Airy Cost: TBD	This study does not recommend a specific improvement in this area. However, leveraging the current improvement project at Gillis Falls Road/Harrisville Road with improvements along Gillis Falls Road and Woodbine Road could encourage motorists intending to travel eastbound on I-70 from points north.	N/A	N/A	N/A	N/A

Benefits and Impacts

Within the immediate Mount Airy area, these improvements would improve local travel east and west of MD27. The Century Drive extension will improve short-trip access east of Ridge Road, while the proposed roundabout would make for more reliable travel between businesses along Ridgeside Drive and local residences.

In addition to facilitating local access, completion of these improvements will help improve mobility along MD 27. Because Ridge Road is a principal arterial and one of Carroll County’s access points to the interstate highway network, improving mobility along MD 27 would alleviate travel to points west—such as Frederick—via I-70, as well as provide better access to Montgomery County via MD 27. These travel time improvements would significantly benefit current commuters, but could also potentially increase development pressure, especially in the southeast quadrant of the County.



Figure 5.39 Mount Airy 2040 Build Traffic Conditions with Most Promising Potential Improvements