Chapter 6
Circulation and Parking

Safe, convenient and efficient circulation is important to residents, businesses, and public services. This chapter presents data and analysis of traffic flow on major corridors and areas of safety concern, identifies potential street extensions, assesses public parking in proximity to downtown, and offers best practices and principles for the Hanover area circulation system. It concludes with recommendations for the Borough, the Township and additional municipalities in the Greater Hanover Region.

Traffic Flow on Major Corridors

Congested corridors create travel delays for deliveries, emergency responders and general schedules and should be evaluated for improvement, modification, or alternative routing. A comparison of traffic volume to roadway capacity standards for nine major state and local roads was used to determine "congested corridors" in the Hanover area. The 2011 peak hour traffic volume data were collected from PennDOT. Roadway capacities for urban/suburban roadways, drawn from the *Highway Capacity Manual,2000,* indicate the following capacities for a level of service D or better: 2 lanes – 1,600 vehicles/hour, 3 lanes – 2,410 vehicles/hour, and 4 lanes – 3,220 vehicles/hour. Where the level of service was less than D, the corridor was deemed congested. The results of the comparison are listed in Table 6-1 and illustrated in Figure 6-1.

TABLE 6-1 VOLUME TO CAPACITY RATIOS FOR MAJOR ROADS IN THE HANOVER AREA

Road Segment	Volume to Capacity Ratio	Considered Congested
SR 94/Carlisle Street, north of Center Square	0.60-0.83	No
SR 94/Baltimore Street, south of Center Square	1.18	Yes
SR 194/Broadway	0.88	No
SR 116/York Street, east of Center Square to SR 216	0.79	No
SR 116/York Road, east of SR 216	0.35	No
SR 116/194/Frederick Street west of Center Square	0.51-0.63	No
SR 216/Blooming Grove Road	0.59	No
W Elm Avenue	0.59	No
Eisenhower Drive	0.36-0.53	No

Source: Gannett Fleming

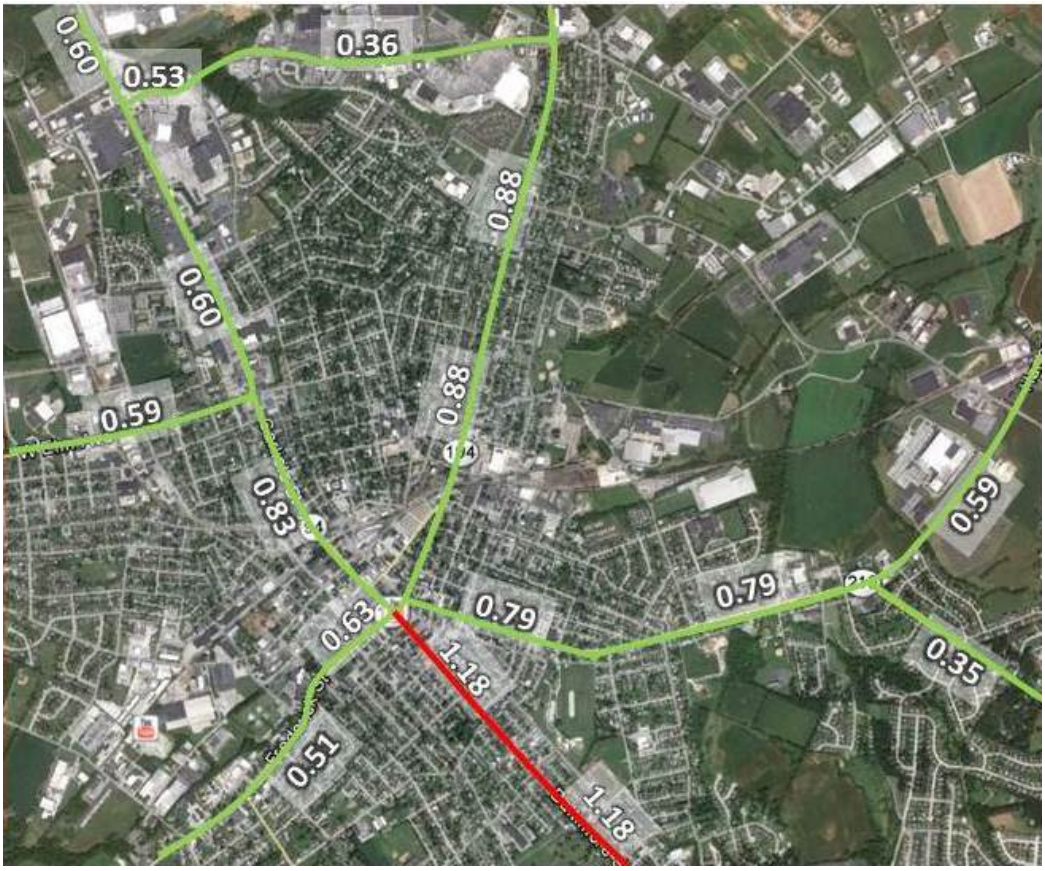

FIGURE 6-1 VOLUME TO CAPACITY RATIOS FOR MAJOR ROADS IN THE HANOVER AREA

ONE CONGESTED CORRIDOR: SR 94/BALTIMORE STREET

Of the nine roads analyzed, only SR 94/Baltimore Street showed a ratio higher than 1.0 or peak hour traffic volumes higher than the roadway's capacity. In fact, traffic demand during the peak hour on SR 94/Baltimore Street was 18% higher than the available capacity. This heavy traffic flow results, in part, from residents in southern Penn Township traveling to employment, service and shopping destinations on the north, east and west sides of the Borough and beyond such as New Oxford, Gettysburg, and York.

Widening SR 94 in this corridor would be prohibitively expensive and politically unpopular. There are few signals in this corridor, so mitigation options are focused on improving alternative routes, such as Grandview Road, and safety in the midst of recurring congestion.

Due in part to its high traffic volumes, PennDOT evaluated SR 94 for safety hazards in September 2013. The road safety audit is reported on page 144.

Two Corridors to Watch

SR 94/Carlisle Street and SR 194/Broadway each had ratios of 80-90% of capacity – ratios that should be re-checked as the region grows and as transportation improvements, which may influence travel patterns, are made.

Congestion at SR 194/Broadway and Eisenhower Drive

In addition to these corridors, the Borough and the Township have observed congestion at the intersection of SR 194/Broadway and Eisenhower Drive – specifically, westbound traffic queues that blocks one or both driveways to the Utz facility on the northwest quadrant. The right-of-way was expanded to the north several years ago to accommodate a westbound left turn lane, but long queues continue to occur. An analysis of traffic patterns and the signal timing plan showed that most traffic is thrubound and a second thru lane option is needed to reduce the queue. The recommended lane configuration is one left turn, one thru, and one thru/right. Additional right-of-way to the north would be needed.

Other concerns at this intersection included the complex street pattern in the northwest quadrant, which raised questions about land use planning in this portion of the Hanover area. The Hanover Area is growing but slowly and generally in the southern portion at the present time. Land use planning changes in the northern portion are limited to extension of commercial designation to a few parcels along PA 94/Carlisle Street and PA 194/Broadway. The rest of the northern area remains designated for low density rural residential and conservation uses. When land use planning for the northern area is needed, it should consider reservation of a transportation corridor between PA 94/Carlisle Street and PA 194/Broadway.

East of PA 194/Broadway, land designated for commercial and residential uses is undeveloped. Because this area lies between the existing industrial area and PA 94/Carlisle Street, planning for streets in this area should aim to provide mobility for both through and local traffic.

Intersections and Corridors of Safety Concern

Safety hazards of the transportation system, whether by design, lack of maintenance, or driver behavior, put travelers and property at risk and should be corrected, where possible. Hanover Borough and Penn Township listed 16 intersections of concern for analysis. Recent crash data (2008-2013) for these intersections and others, where data was available, was examined for each site to validate concerns before proceeding with site investigation.

Typically, a section of roadway or intersection that experiences 10 or more reportable crashes in a 5 year period is considered a safety concern. A reportable crash is where at least one vehicle becomes disabled and must be towed from the scene. These intersections are listed in Table 6-2 with their crash reportable statistics for the period 2008-2013. Where differences between the police data and PennDOT occurred, the higher number of crashes was utilized.

TABLE 6-2 REPORTABLE CRASHES AT LOCALLY-IDENTIFIED LOCATIONS OF CONCERN

Intersections	Location	Reportable Crashes, 2008-2013
SR 94 at Eisenhower Drive	Borough	33
Eisenhower Drive at Wilson Ave	Borough	31
SR 194 at Eisenhower Drive	Borough	22
Eisenhower at Eichelberger	Borough	19
Eichelberger St at Clearview Rd	Borough	16
SR 116/High St at Poplar St	Borough	13
SR 94 at Wilson Ave	Borough	12
SR 94 at Elm Ave	Borough	12
SR 94 at Walnut	Borough	12
Wilson Ave at Moul Ave	Borough	12
Hanover Square (SR 94 at SR 116)	Borough	<10
SR 94/Baltimore St at Wirt Ave	Township	<10
SR 94/Baltimore St at Clover Ln	Township	<10
3rd St at SR 116/High St	Borough	<10
High St at Kindig Ln	Borough	<10
Wilson Ave at SR 194	Borough	<10
Moul Ave at Ridge Ave	Borough	<10
Grandview Rd at SR 216/Blooming Grove Rd	Township	<10
SR 116/York St at John St	Township	<10
SR 116/York St at Baer Ave	Township	<10
SR 116/York St at Center St	Township	<10
Corridors		
Grandview Rd from SR 94 to Colonial Drive	Township	21

Source: Hanover Police Dept., PennDOT Central Office

Safety Assessment

This section documents existing conditions and deficiencies which may be a safety concern along with potential mitigation option(s) to improve safety and/or operations. Information from the crash analysis section was utilized when determining potential mitigation options at study intersections. Mitigation options range from immediate/short-term improvements to long-term improvements that may need additional analysis.

HANOVER SQUARE (SR 94 AT SR 116)


Condition: All pedestrian phase and traffic volume fluctuations throughout the day on approaches entering the square increase delay leading to aggressive driving and red light running. Heavy truck movements through the square increase congestion and delay.

Mitigation Option(s): Do not allow pedestrians to cross in the middle of the square forcing them to cross on the approaches to the square which reduces the length of the all pedestrian phase. Install a traffic adaptive signal system to improve traffic signal operations for the signals in the square and the surrounding intersections. Long-term, consider new roadway connections surrounding the square to restrict truck movements through the square.

3RD STREET AT HIGH STREET


Condition: Unique intersection configuration with at-grade railroad crossing leads to confusion with who has right-of-way. Vehicles were observed queuing onto railroad tracks. Flashing lights are provided at the railroad crossing but no gates. Faded pavement markings at intersection. Surprisingly low number of crashes for complexity of intersection.

Mitigation Option(s): Replace faded pavement markings and install DO NOT STOP ON TRACKS signs. Consider installing gates to prevent vehicles from queuing or entering the track when a train is approaching. Continue to monitor crash activity at the intersection; motorists

appear to avoid or drive extremely cautiously through intersection. Long-term, grade separated crossing should be considered along with a reconfiguration of 3rd Street to eliminate one of the legs entering the intersection.

High Street at Kindig Lane

Condition: Stop sign is located too far from the intersection. No stop bar is provided.

Mitigation Option(s): Relocate stop sign closer to the intersection and stripe a stop bar. Consider installing a double arrow panel  on the east side of the intersection for motorist exiting Kindig Lane. High volume of traffic along High Street, evaluate for ALL-WAY stop in the future.

Eichelberger at Clearview

Condition: Stop bars are faded. No ADA ramps are provided at the intersection.

Mitigation Option(s): Restripe stop bars and upgrade curb ramps at each corner as appropriate. If crashes continue to occur, evaluate the intersection for ALL-WAY Stop in the future.

Ridge Avenue at Moul Avenue

Condition: Skewed intersection with unnecessary roadway connection on the west side. Skew creates sight distance concerns for motorist stopping on Ridge Ave. Intersection has perception that it should be an ALL-WAY STOP. Pavement markings are faded and curb ramps are in poor condition.

Mitigation Option(s): Eliminate connector road on the west side of the intersection. Install CROSS TRAFFIC DOES NOT STOP signs below existing stop signs. Restripe pavement markings and upgrade curb ramps to meet ADA. Evaluate intersection for ALL-WAY Stop.

SR 94 between 3rd Street and Kuhn/Dart Drive

Condition: Corridor transitions from a 2-lane cross section to a 3-lane cross section with a center left turn lane starting north of Stock St. Faded pavement markings were noted along the corridor. A number of crashes at Elm Ave were attributed to red light running in the southbound direction.

Mitigation Option(s): Extend the center left turn lane through the 3rd Street intersection. Restripe faded pavement markings along SR 94. Verify clearance (all red phase) is adequate at SR 94 and Elm Ave. Provide retroreflective tape around the signal backplates to enhance visibility.

EISENHOWER DRIVE BETWEEN SR 94 & SR 194

Condition: Some minor driveways along Eisenhower near SR 94 are full access creating additional conflict points. Left turn phasing along Eisenhower is protected/permitted allowing vehicles to make left turns without the green arrow.

Mitigation Option(s): Install median treatments and concrete islands on minor driveways to restrict turning movements to right in/right out along Eisenhower where appropriate. If angle crashes continue to be a problem along Eisenhower, consider a protected only left turn phase. However, switching to a protected only left turn phase will reduce capacity at signalized intersections.

WILSON AVENUE AT SR 194

Condition: Vegetation in southeast corner restricts sight distance for vehicles existing Wilson Avenue. Trucks were observed using Wilson Avenue even though trucks are restricted.

Mitigation Option(s): Work with property owner to remove vegetation in southeast corner. Increase enforcement of truck restrictions along Wilson Avenue. Consider striping left turn lanes into Wilson Ave on SR 194. Long-term, as traffic continues to increase evaluate intersection for a traffic signal.

Wilson Avenue at Moul Avenue

Condition: Intersection has perception that it should be an ALL-WAY Stop. Several near misses were noted when observing the intersection. School traffic creates significant congestion and delay to the approaches along Wilson Ave. Motorist were observed cutting through the school driveway between Wilson and Moul to avoid the westbound stop sign. Only half of the intersection is ADA compliant.

Mitigation Option(s): Intersection appears to meet ALL-WAY STOP warrants during peak periods. ALL-WAY stop would assist crossing guards and help to mitigate cut-through traffic on the school driveway. If intersection does not meet ALL-WAY STOP warrants, consider utilizing a traffic cop during school dismissal to control the intersection to improve operations. Upgrade entire intersection to meet ADA, especially since it's a heavy school crossing location. Long-term, consider implementing a small roundabout to improve operations at the intersection.

Grandview from SR 94 to Colonial Drive

Condition: Turn radius in the southeast corner is inadequate for large commercial vehicles. Access points for the gas station and Grandview plaza are offset creating additional conflict points. The full-access into the gas station along Grandview creates problems for vehicles turning left into the gas station since there is no storage lane. The intersection of Hillside Road and SR 94 is right-in, right-out, allowing access to and from southbound SR 94 only. This limited access reduces conflicts with northbound traffic but doesn't eliminate conflict at this intersection.

Mitigation Option(s): Enlarge the curve radii in the southeast corner to improve truck movements. Modify the island at the gas station access along SR 94 to allow left turns into the gas station but still restrict left turns exiting the gas station onto SR 94 South. The current signal timing and phasing provides a gap in the SR 94 northbound traffic for vehicles to make left turns. Install a concrete island in the gas station access along Grandview to restrict turning movements to right-in/right-out only. Restrict Hillside Road to right-in/right-out by installing a concrete island to prevent left turns in and out. Long-term or if the gas station were to expand, realign the gas station driveway along Grandview to create a 4-way intersection with the Grandview Plaza entrance and revisit the need for turning restrictions based on traffic volumes and turning counts at that time.

GRANDVIEW AT BLACK ROCK

Condition: Pavement markings are faded. Pedestrian accommodations are provided at the signal but no sidewalk is provided along the roadway.

Mitigation Option(s): Restripe faded pavement markings. Provide sidewalk or other pedestrian facility along Grandview and Black Rock Roads to provide a more complete street for all local modes.

Grandview at Blooming Grove

Condition: Traffic signal is old and needs to be retimed. No tether wire is provided to keep signal heads from swaying during windy conditions. Push buttons are provided but no other pedestrian accommodations. No left turn lanes are provided resulting in excessive delay when left turning vehicles block through traffic, according to a local citizen.

Mitigation Option(s): Retime the traffic signal and install tether wire. Long-term, consider installing a new signal, adding left turns lane where appropriate based on traffic volumes, and adding ADA-compliant pedestrian accommodations, including sidewalk and crosswalk markings.

Baltimore Street at Clover Lane

Condition: Missing supplemental street name sign on the advance intersection warning signs. No crosswalk is provided across Clover Lane. Faded pavement markings. Property owner's hedges in the northwest corner restrict sight distance.

A new traffic signal was installed at this intersection in Spring 2014. The mitigation options identified at the time of field assessment remain applicable to the intersection.

Mitigation Option(s): Install supplemental street name signs on advance intersection warning signs. Stripe a crosswalk on Clover Lane. Restripe faded pavement markings and consider striping a left turn lane into Clover Lane on Baltimore Street. Work with property owner to trim/remove hedges.

Baltimore Street at Wirt Avenue

Condition: Traffic signal is old and only provides 8″ signal heads. No overhead street name signs are provided. Signals are missing tether wire to prevent them from swaying during windy conditions.

Mitigation Option(s): Replace 8″ signal heads with 12″ heads. Install overhead street name signs and tether wire. Long-term, consider installing a new traffic signal.

John Street at York Street

Condition: Curb ramps are not ADA compliant and no crosswalks are provided. Some pavement markings are faded. Only 4 reportable crashes from 2008-present.

Mitigation Option(s): Install ADA compliant curb ramps and replace faded pavement markings. Stripe crosswalks at the intersection as appropriate.

Baer Avenue at York Street

Condition: Curb ramps are not ADA compliant and no crosswalks are provided. Some pavement markings are faded. Only 2 reportable crashes from 2008-present.

Mitigation Option(s): Install ADA compliant curb ramps and replace faded pavement markings. Stripe crosswalks at the intersection as appropriate.

CENTER STREET AT YORK STREET

Condition: No stop sign is provided on the northbound approach. Northbound approach is gravel, not pavement. No stop bar is provided on the southbound approach. Poor curb ramps and sidewalk condition. Property owner's hedges in the northwest corner restrict sight distance for southbound vehicles.

A new traffic signal was installed at this intersection in Spring 2014. The mitigation options identified at the time of field assessment remain applicable to the intersection.

Mitigation Option(s): Pave the northbound approach and provide a stop sign and stop bar. Stripe a stop bar on the southbound approach and work with property owners to trim/remove the hedges in the northwest corner. Upgrade curb ramps and sidewalk to meet ADA requirements.

FREDERICK AT BLETTNER

Condition: Sight distance on the southbound approach is limited to houses located adjacent Frederick Street. Left turning vehicles along Frederick occasionally queue cars on Frederick creating additional congestion and delay. Turn radii on the north side of the intersection are inadequate for turning large commercial vehicles. No stop bars are provided on the northbound and southbound approaches. Curb ramps are not ADA compliant except for the southeast corner and no crosswalks are provided.

Mitigation Options: Increase turn radii as necessary on the north side of the intersection to accommodate the appropriate design vehicles. Stripe crosswalks and stop bars on the northbound and southbound approaches. Upgrade existing curb ramps to meet ADA standards. Consider striping dedicated left turn lanes along Frederick Street at the intersection and restricting on-street parking as necessary. As development continues to occur, monitor traffic volumes at this location to determine if a traffic signal may be warranted in the future.

ROUTE 94 ROAD SAFETY AUDIT

PennDOT and the York MPO conducted a road safety audit for the Route 94 corridor from Eisenhower Drive to Footer Street in 2013. Gannet Fleming was the consulting engineering firm. The purpose of the Route 94 Road Safety Audit was to analyze SR 94 to identify potential transportation safety improvements.

As part of the audit, the following strategies were identified to further enhance safety along the study corridor.

- Thirty-one (31) short-term strategies focus on sign visibility, sign placement, parking restrictions, and signal timing.
- Eleven (11) mid-term strategies identified updates and retrofits to signals, curb radii, driveways, etc.
- Six (6) long-term strategies suggested upgrades to curb ramps, signal systems, turning lanes, and Center Square.

ROUTE 116 ROAD SAFETY AUDIT

PennDOT and the York MPO also conducted a road safety audit for the Route 116 corridor from McSheersytown to Orchard Street in Hanover later in 2013. The purpose of this Road Safety Audit was also to identify potential transportation safety improvements. As part of the audit, the following strategies were identified to further enhance safety along the study corridor:

- Twenty (20) short-term strategies focused primarily on sign visibility, sign placement, and pavement markings.
- Thirteen (13) mid-term strategies identified updates turning restrictions and phasing, emergency preemption, and one-way travel patterns.
- Seven (7) long-term strategies suggested upgrades to curb ramps, hydrant and utility pole placement, sidewalks, lighting, and Center Square.

POTENTIAL STREET EXTENSIONS

Extensions of the existing street network can provide alternative routes that will help to alleviate traffic volumes on the major routes and remove some truck traffic from the downtown. The following potential extensions are suggested for consideration and further study.

1. Construct an extension of High Street from Wetzel Drive into Oxford Township, Adams County. The extension would connect with Hanover Street.
2. Moul Avenue north to PA 194/Broadway or a future cross street.
3. West Chestnut Street to Blettner Avenue. Based on field observation, this extension would follow parcel lines and not divide any large parcels. This extension would provide an alternate for traffic westbound on PA 194, or could operate in tandem with Frederick Street as a pair of one-way streets. Under the one-way pair concept, West Chestnut would continue one-way west and Frederick would become one-way east from Blettner to Fulton. This concept may be worth further study in a feasibility study. Additional implications including the following should be explored:
    a. If Frederick were to become one-way eastbound, West Chestnut would have to handle all traffic westbound and therefore would need to be built better/wider than if constructed as an alternative to Frederick westbound.
    b. The transition from a one-way to a two-way system typically happens at a major intersection. If West Chestnut were to be extended to Blettner, Blettner at Frederick may need to be improved. If West Chestnut were to be extended farther west, it could be tied directly into Frederick farther west. Plum Creek lies west of Blettner and may pose an environmental challenge.
    c. The land use implication of more traffic (more eyes) on West Chestnut is more visibility to parcels along West Chestnut, which could make the land more attractive to commercial uses. If uses change from industrial, more side streets may be needed between Forney and Blettner.
4. To serve the greater Hanover region, a new connector roadway between PA Route 116 in Conewago Township to PA 194/Hanover Pike in Conewago Township to Grandview Road in Penn Township. The new connector could utilize portions of existing Mount Pleasant Road. It could also be designed to provide truck access from the industrial areas on the west side of Hanover to state routes. Further extension of West Chestnut Street and other streets to this connector should also be considered to extend the street in grid in some fashion.

Downtown Parking

A lack of convenient parking in downtown is a common complaint. Before considering options to increase parking or to dismiss the complaint, the Borough needs to determine if the complaint is valid.

The use of downtown public parking was assessed on Thursday, May 16, 2013. Usage was inventoried during the 10am-11am hour and again during the 1pm-2pm hour for the five municipal parking lots, the farmer's market lot, SR 116 lot, and approximately 700 metered on-street spaces within two blocks of Center Square as shown in Figure 2 along with AM and PM utilization rates. If on-street parking was permitted on both sides of the road, occupancy was totaled for that block. Un-metered on-street parking outside of downtown was not inventoried.

At the time of the parking assessment, parking meters were all mechanical, coin-operated and in fair to good condition. Parking meters were marked as enforced from 8AM to 5PM. In comparison to similar-sized downtown areas, metered parking is inexpensive: 5 cents for 30 minutes, 10 cents for 1 hour, and 25 cents for 2 ½ hours.

Sufficient Capacity

An optimal parking capacity rate is approximately 85 percent. This rate accommodates regular turnover and occasional higher peaks in parking demand.

On-street spaces near offices along Carlisle, Frederick and Broadway, in Center Square, and the municipal lot on Baltimore Street had utilization rates of 50% or more in both the AM and PM periods. Only one location exceeded a utilization rate of 85 percent – East Chestnut Street between Railroad and Carlisle Streets in the AM where only a few metered parking spaces are provided.

Demand in most locations was fairly even between the morning and afternoon periods. The lots and areas with the greatest difference in AM to PM utilization rates were on-street spaces in the first block of East Chestnut Street (100% in the AM and 50% in the PM), in the first block of Frederick Street (50% in the AM and 14% in the PM), and SR 194/Broadway east of Railroad (76% in the AM and 52% in the PM). AM and PM occupancy rates in all other lots and on-street locations were ranged 0-17%.

FIGURE 6-2 PARKING UTILIZATION FOR MORNING AND MID-AFTERNOON TIME PERIODS

Based on the May 2013 observation, downtown Hanover has an ample parking supply in on- and off-street locations for the current demand. If occupancy in the downtown were higher, demand would also likely be higher. Parking demand and supply should be revisited periodically as occupancy increases.

FACTORS THAT INFLUENCE PARKING PERCEPTIONS

Given this conclusion, the complaint of limited parking needs to be considered from other perspectives:

Is available parking located "too far" from destinations or otherwise "inconvenient"? Lots located farther from Center Square had lower utilization rates but lots and spaces nearer Center Square still had a high percentage of open spaces. On-street spaces near offices along Carlisle, Frederick and Broadway had rates higher than nearby lots but were not full. One could consider the quality and comfort of the pedestrian corridor between the available parking and destinations as a potential influence on the perception of parking convenience. This may be especially true for older residents, who have physical mobility limitations and for whom comfortable sidewalks and streetscapes are both necessary and integral to their memory of downtown shopping, as well as younger residents looking for attractive downtown living.

Is parking occupied by the same vehicles throughout the workday, indicating an employee vehicle not a customer vehicle? Indeed, this does occur as evidenced by business owners and managers who complain about employees leaving their stations to "feed the meter." The Borough has a monthly parking pass program, which allows a vehicle unlimited parking in one designated lot for $15 per month. The program has issued approximately 100 passes. The program is under review and may be revised and/or expanded. Expansion should consider:

1. Would more employees use the program if more/sufficient passes were available?
2. How many passes would be needed to provide adequate employee parking in downtown lots? What capacity would be left for other users?
3. Would employer-paid passes increase use of the program and employee use of off-street parking?

Are there other times of day or week for which parking utilization is higher? Indeed parking demand may be highest on Saturday, for example. However, to build parking to meet peak demand is generally not cost-effective, so demand is sampled on a typical day, such as mid-week.

There has also been some discussion of taking action to increase parking in the downtown by constructing a two-level parking deck. Because a parking structure comes at considerable expense, parking inefficiencies and perceptions should be thoroughly explored and addressed to the extent practical. As a concurrent step, the Borough may want to include parking structures as a new use for the downtown when it updates its zoning ordinance.

CURRENT TRANSPORTATION PLANNING PRINCIPLES

LONG RANGE TRANSPORTATION PLANNING

Transportation planning under the current federal transportation bill, MAP-21, has expanded the definition of transportation needs to include all needs not just those that fit into a fiscally constrained transportation plan. This is important because those who make decisions about transportation funding need a complete picture of transportation needs, not just those that are eligible for current programs. This enhanced view of transportation needs should help the state and federal government to revise and develop new funding programs that better meet common needs.

The Borough and the Township should maintain and expand the transportation recommendations in this plan and submit as candidate projects for the York MPO's long range transportation plan.

SMART TRANSPORTATION

PennDOT has adopted Smart Transportation as its program to make better transportation and land use investments. It uses ten principles to evaluate candidate projects for their support of community goals and objectives (not just for transportation), affordability, and timeliness.

Smart Transportation Principles

- Money counts; plan, design, and construct affordable projects
- Understand the context; plan and design within the context
- Choose projects with high value to price ratios
- Enhance the local network
- Look beyond level of service
- Safety first and maybe safety only
- Accommodate all modes
- Leverage and preserve existing investments
- Build towns, not sprawl
- Develop local governments as strong land use partners

The Borough and the Township should reference the Joint Comprehensive Plan when projects are being developed for state and federal funding and explain the benefits of the project in terms of smart transportation principles in order to be competitive for funds.

COMPLETE STREETS

"Complete streets" is an approach to street design that accommodates all modes of transportation in use or desired by the community. It aims to meet the design standards for all

modes but may make adjustments, e.g. a narrower cartway to accommodate a sidewalk or bike lane within a constrained right-of-way. In some communities, complete streets supports extension and infill of sidewalks. In other communities, accommodations or road-sharing signage for bicyclists is emphasized. In yet other areas, dedicated bus or transit lanes can be the focus. Regardless of the modes, complete streets addresses both linear segments and intersections with cross-corridors to provide facilities for all users.

A complete streets philosophy may be used to support a more visible bicycle network throughout the Hanover Area and improved pedestrian environment in the downtown.

Goals, Objectives and Recommendations for Transportation

Safe, efficient, and reliable transportation infrastructure is essential to the economy and quality of life in the Hanover Area. The street and highway pattern laid out by generations past do not fully meet the needs of today's businesses, residents and visitors. Minor adjustments, major improvements and infrastructure extensions can continue to make the Hanover Area a desirable place for industry and small town living.

Our goal for transportation is to move people and goods safely and efficiently throughout the Hanover Area and to accommodate parking.

To achieve this goal, the Borough and Township and their transportation partners need to:

1. Improve interconnectivity
2. Optimize operations in the Square and along key corridors and intersections
3. Address safety concerns
4. Maintain adequate parking
5. Improve transit infrastructure
6. Improve bicycle/pedestrian infrastructure

Leads and Partners for Implementation

The Borough and Township are responsible for local street and roadway infrastructure as well as signal operation and maintenance.

York County/York MPO can help fund and lead studies to evaluate improvement options, program state and federal transportation funds for improvements in the Hanover Area, and coordinate with PennDOT on improvement and maintenance of state highways. In addition to transportation funds, the County's Community Development Block Grant funds can be used for transportation projects that meet certain criteria.

PennDOT provides some state and federal funding directly to the York County MPO for transportation improvement projects within the County. It provides other funding directly to

municipalities on an allocation basis, such as liquid fuels funds, or on a competitive basis. PennDOT District 8-0 can study and design improvements to state highways. Other special funding programs, such as the state's Automated Red Light Enforcement (ARLE) program, may be suitable sources of funding for eligible projects.

Business in the private sector can contribute to transportation improvements through cooperation in the acquisition/transfer of right-of-way process, contributions to the local match required for some project funding, and local perspective on the use and needs of transportation infrastructure in the Hanover Area.

Recommendations	Lead; Partners	Priority: Year of Completion
Improve interconnectivity		
1. Improve the SR 194/Broadway at Eisenhower/Moulstown intersection with an additional northbound left turn lane.	Borough	
2. Reserve land for a Grandview to SR 116 connection.	Township, surrounding municipalities, York County/MPO, private sponsors	Medium: 2018
3. If truck use of Wilson Ave past the Hanover High School becomes more than occasional, interview or survey local industry about their use of SR 94 and SR 194 north of Hanover for shipping/receiving. Based on the response, determine if there is potential benefit from a new or improved connector from SR 116 to Moulstown Road and study alternatives, if appropriate.	Borough, Township, York County/MPO	Medium (feasibility only): 2019
4. Reserve land for a Moulstown to SR 194/Broadway to SR 94/Carlisle connector. (Program with Recommendation 6)	Borough, Township,	Medium (corridor designation only): 2020
Optimize operations in the Square and along key corridors and intersections		
5. Determine the feasibility of replacing the current signalized center Square intersection with a roundabout. (Gettysburg and Chambersburg have signalized roundabouts, where signals 1-2 blocks away control the flow of traffic into the roundabout. Abbottstown and New Oxford have unsignalized roundabouts.) a. Collect and analyze traffic volumes and	Borough, York MPO, PennDOT; Township and other surrounding municipalities	High: 2018 (feasibility only; if feasible, ~12 years to construction)

Recommendations	Lead; Partners	Priority: Year of Completion
turning count data to determine if a roundabout is feasible; count adjacent intersections for a more complete data set of traffic demand in downtown. b. Determine the size (radius) of a roundabout and its impact on travel speed through the Square. c. Determine the impact of a roundabout on parking in Center Square. Initial assessment of the available space suggest that there is not enough space for vehicles to safely enter and exit parking spaces if a roundabout were to be installed. However, other parking improvements are being discussed. Determine if their benefit would reasonably offset the loss of parking capacity in the Square.		
6. Install/Improve signal coordination and update signal timing along SR 94. Consider an adaptive signal system that adjusts the timing of each signal to the actual traffic flow. Add emergency preemption equipment where lacking. Prioritize along SR 94/Baltimore to address current congestion. Consider for all of SR 94 from Eisenhower to Grandview.	Borough, Township, York MPO, PennDOT	High: 2019
7. Remove on-street parking on SR 94 from Stock to Clover and reconfigure travel lanes as one northbound, one southbound, and one center turn lane. Consider pedestrian refuge islands at mid-block or at intersections where turning lanes are not necessary. Prioritize along SR 94/Baltimore from Center Square to Clover to address current congestion. Consider for SR 94 from Stock to Center Square.	Borough, Township, York MPO, PennDOT	Low: 2020
8. Continue to monitor traffic volumes on SR 94/Carlisle and SR 194/Broadway. If volume to capacity exceeds 1.00, re-evaluate conditions and congestion management options and alternative routes.	Borough, Township, York MPO, PennDOT	Medium: Ongoing
9. Improve the SR 194/Broadway at Eisenhower/Moulstown intersection. Expand the right-of-way and construct a thru/right lane to the	Borough, PennDOT; Township	High: 2017

Recommendations	Lead; Partners	Priority: Year of Completion
westbound Moulstown approach.		
10. Upgrade the intersection and signal at Grandview at SR 216/Blooming Grove. Add turning lanes, if traffic volumes warrant.	Township, PennDOT	High: 2017
11. Restripe pavement markings and add sidewalk or other pedestrian facility at the intersection of Grandview at Black Rock.	Township, PennDOT	Medium: 2022
Address safety concerns		
12. Re-align Walnut Street intersection with SR 94.	Borough, PennDOT	Low: 2024 unless integrated with another improvement
13. See road safety audit reports for SR 94 and SR 116 for additional and more detailed safety improvement options.	Borough, Township, York County/MPO, PennDOT	Medium: 2018
Maintain adequate parking		
14. Expand the parking pass program.	Borough; Chamber, Main Street Hanover	Medium: 2016
15. Determine the desirability and potential locations for a mixed use parking structure in downtown in conjunction with zoning updates. Consider a conditional overlay approach to specify criteria for location. Consider commercial uses on the first floor and aesthetic treatments for the façade.	Borough; Chamber, Main Street Hanover	High: 2017
Improve transit infrastructure		
16. Support relocation of the bus transfer station from the McAllister Hotel to another site in downtown. The current site under consideration is 219 Baltimore Street. Include transfer station in zoning update.	Borough, Rabbittransit; York MPO	Medium: 2020
Improve bicycle/pedestrian infrastructure		
17. Bike racks at all schools, parks, and the bus transfer station.	Borough, York MPO, (Bike advocacy org)	Low: 2020
18. Improve signage (frequency) for rail-trail.	Borough, York Rail-	Low: 2020

Recommendations	Lead; Partners	Priority: Year of Completion
	Trail Authority	
19. Add crosswalks and detectable warning surfaces at alley crossings in downtown. Such visual markings will queue drivers to look for pedestrians as they exit the alleys.	Borough	Low: 2022 unless integrated with other improvements