



Downtown Dover

Parking Study

Prepared for:

City of Dover
Dover / Kent County MPO
Downtown Dover Partnership

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Downtown Dover Parking Study

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Dover / Kent County MPO retains ownership of all products developed by the consulting team during this project, including the parking data collected, the Parking Demand Model, and the Parking Costs, Pricing and Revenue Model developed during the project.

Executive Summary

The Downtown Dover Parking Study is an initiative of the City of Dover and the Dover / Kent County Metropolitan Planning Organization (DKCMPO), in partnership with the Downtown Dover Partnership (DDP). These partners retained our consulting team, led by Langan Engineering and Environmental Services, Inc. (Langan) and with KSK Architects Planners and Historians, Inc. (KSK), to take a fresh look at the issue of parking downtown, and to come up with a series of recommendations that would be updated from the last time a parking study was conducted (in 2004) and would reinforce attempts to redevelop and bring fresh vitality downtown.

The primary study area for this new study was bound by Water Street to the south, West Street to the west, Fulton Street to the north and State Street to the east. Additionally we also studied the area around the City Hall Lot which is bound by State Street to the west, Division Street to the north, Water Street to the south and Park Drive to the east.

As with most successful downtowns, the complaints about parking in Dover are chronic. It was important to investigate the root cause of the complaints – whether they were caused by lack of sufficient parking (supply problem), by increased usage (demand problem), by lack of wayfinding or fear of safety (human factor problems), by parking rates (pricing problem), by unbalanced demand issues (management problem), or by a combination thereof.

This analysis was especially important in light of the longstanding public discussion in Dover that a parking garage would be the solution. If this were the first option taken to address the parking issues, it would likely burden the city with significant debt to fund construction, while it would likely not operate significantly dissimilar from some of the existing parking lots which are currently half-full.

The project team reviewed the previous study and other available parking data, conducted additional parking counts for both on-street and off-street parking, reviewed the current parking rate structure and peer cities' rate structures, conducted significant stakeholder and public outreach, and at the end of the analysis came up with a set of recommendations.

Ultimately, the data and the feedback showed that during peak-demand periods there is actually plenty of unused capacity within the current supply of downtown parking spaces. However, the patterns of parking utilization show that all available resources are actually not well utilized. "Parking surfers"¹ and staff occupy the prime parking spots that should instead be dedicated to visitors and customers for downtown businesses, and the current parking rate structure provides incentives for these users and for parking permit holders, in detriment of the desired visitors and customers.

Key Findings

- There are approximately 1,762 parking spaces within the study area, including 607 On-Street public spaces, 459 Off-Street public parking spaces, and an estimated 696 Off-Street private parking spaces.
- To date, the City of Dover has managed parking demand with traditional methods, including, reserved parking leases (as an incentive to attract businesses downtown), free short-term parking, time limits for some spots, and installation of some metered spots.
- Downtown Dover time limits are having no effect at distributing demand to areas with more availability and providing more rotation for customers for downtown businesses. Instead, "parking

¹ Parking surfers are local workers who avoid the 2-Hour parking limits by constantly coming back to their cars to move them to a nearby spot or to re-feed a meter, thus effectively blocking the goal of the limits, which is to increase the rotation and availability of parking spots near businesses.

surfers” are placing many of these spaces out of the inventory of available parking for customers. The current meter rates are also ineffective at moving these undesired uses away from high-demand areas.

- The existing parking lease program is valuable to some key businesses that were attracted downtown. However, the current configuration of permit spaces effectively creates an inner ring of parking that is available only to permit holders (and might thus sit idle), while desired customers and visitors have to seek out other options further away.
- The overall peak occupancy of on-street parking did not exceed 75%; and of the off-street parking lots did not exceed 63%. When adjusted for time of day and type of use, the overall system occupancy never exceeded 60%, when the typical targets for efficient use without overcrowding are typically are 85% occupancy for on-street parking and 90% for off-street parking.
- There are indications that downtown Dover can become a successful park-once destination, where most drivers only use one parking space per visit, regardless of how many destinations they visit.

The issue is really two-fold: an inefficient distribution of parking capacity, where some lots and preferred on-street spots might see over 80% occupancy, and others linger below 40%; and confusing wayfinding and parking rate systems, which contribute to create a large disincentive for parking downtown.

The project team developed a series of recommendations to address these findings, based on the analysis as well as the input and feedback from multiple stakeholders and the public. These set of recommendations basically fall into these categories:

- Better wayfinding and signage
- Revised parking rate structure
- Improved physical infrastructure, including streetscape, landscape, lighting, security cameras, new pocket parks and connecting walkways, and new gateways to downtown
- Enhanced public engagement and marketing of Historic Downtown Dover as a destination

The proposed wayfinding and signage system can be implemented in phases, and will mitigate the confusion about where to park; will better orient drivers, cyclists, and pedestrians; and will ultimately also help brand Historic Downtown Dover as a cool destination to be, live, work, and play.

The overall pricing rate strategy we recommend provides for a pricing- and demand-based strategy for managing parking in downtown Dover. It provides for a streamlined set of parking rates for visitors to downtown (\$2 for on-street and still 25 cents for off-street lots); while providing a restructured set of fees for permit parking that starts to fully value the location of each spot provided. Using these strategies, parking demand will be better distributed, and the right users will park at the right spots at the right costs.

The revised physical infrastructure will increase safety, change perceptions, and create an overall attractive environment downtown. New pedestrian connections and new gateways are proposed to break down barriers and bring more visitors and customers downtown. Finally, the enhanced public engagement and marketing will reinforce and perpetuate the success of all other improvements.

1. Introduction

The issue of parking in Downtown Dover has long been a topic for discussion. To many observers, a resolution to perceived or real parking issues has seemed to be intractable. The last time the issue of parking was analyzed in detail was on a study completed by KSK Transport for the City of Dover Parking Authority² and City of Dover Department of Public Works in February 2004. Since then, many changes in parking in Downtown Dover have taken place, but complaints persisted.

In 2016, the City of Dover (City) and the Dover / Kent County Metropolitan Planning Organization (DKCMPO), in collaboration with the Downtown Dover Partnership (DDP), decided that a fresh look at the issue of parking downtown was necessary. They retained our consulting team, led by Langan Engineering and with the institutional knowledge and planning experience of KSK³, to complete a new parking study.

After a year of study and coordination with stakeholders and the public, this report summarizes the current state of parking in Downtown Dover; describes what peer cities do to address their parking needs; examines the current parking fee structure; and provides a menu of recommendations, separated into short-term, medium-term, and long-term. These recommendations can be implemented concurrently or individually, to enhance the parking experience downtown and help Dover further its economic redevelopment and continued growth.

Dover and Downtown have challenges – but their future is bright, and implementation of these recommendations can help the city achieve its goals quicker and in a more fulfilling way.

This report goes into detail about how Dover can achieve its goals, and is divided into the following chapters:

- Chapter 2 describes the **Project Approach**, including details about previous studies, major goals of the project, the indicators studied, the project geography, and the major project milestones
- Chapter 3 describes the **Existing Conditions** of Downtown Dover parking, including information from previous studies, how new parking counts were conducted, and an analyses of the main issues with parking
- Chapter 4 describes the **Public Outreach** process, including summaries from the 3 Public Outreach meetings, which were all conducted in open feedback or charrette formats; and the results from the online parking survey conducted
- Chapter 5 describes the **Parking Rate Analysis** and Comparison with Peer Cities, including some alternatives examined for modifying the current parking rate structure
- Chapter 6 lists the **Recommendations** developed as a result of the work described in previous chapters, and lists them in short-term, medium-term, and long-term implementation timelines

² The City of Dover Parking Authority was staffed by the Dover Office of Planning and Inspections, and was responsible for accepting the recommendations and implementing the plan.

³ KSK is now known as KSK Architects Planners Historians, Inc.

2. Project Approach

The Downtown Dover Parking Study Project Approach focused on collecting updated data and stakeholder and public feedback, to gauge the existing condition of parking downtown and work toward a set of recommendations to improve parking, reduce complaints, and ultimately help foster a more attractive downtown and additional economic development. The specific tasks included in the study included a review of previously collected information, collection of updated parking data, a stakeholder and public outreach process, the performance of a parking analysis and the preparation of a set of recommendations. These main tasks can be broken down into the following subtasks:

- Definition of project goals and project geographic limits,
- review of previous reports,
- collection of updated parking data,
- stakeholder and public outreach,
- preparation of a baseline demand analysis,
- review of peer city parking strategies,
- review of the existing parking fee strategy,
- an alternative analysis, and
- development of a preferred set of recommendations.

One of the first steps in the process was to define the parking study goals. In coordination with the City and DKCMPO, the goals for the study were determined at the onset to be:

- Address the adequacy of parking supply;
- Recommend ways to effectively communicate available parking;
- Analyze the existing parking fee structure; and
- Determine the infrastructure needs.

Based on the conclusions from previous parking studies and initial stakeholder input, it was known from the beginning that viable solutions for the parking issues might involve a combination of parking management, pricing, streetscape, enforcement, wayfinding, and infrastructure development strategies. Accordingly, for each of the goals above, several different indicators were examined, including:

- To address the adequacy of parking supply:
 - Allocation of public parking spots for permit holders versus customers
 - Availability of on-street and off-street parking options
 - Availability of parking for specific business and entertainment destinations
 - Availability of parking for special public events
- To recommend ways to effectively communicate available parking:
 - Existing wayfinding signage to available parking
 - Existing wayfinding signage within public parking lots
 - Conflicting signage for adjacent private parking lots
 - Cues to on-street parking

- To analyze existing parking fee structure:
 - Existing on-street parking fee structure
 - Existing off-street parking fee structure
 - Existing permit parking fee structure
 - Peer city fee structures
- To determine the infrastructure needs:
 - Existing state of parking lots and meters and on-street parking and meters
 - Existing condition of pedestrian realm
 - Existing perceptions of safety and lighting
 - Existing demand for parking
 - Future development plans and future demand for parking

Several items were deemed not to be relevant for inclusion in the study, or deemed to be too costly or too burdensome in relation to the resources available for the study. These excluded items included the analysis of parking at adjacent state-controlled facilities, analysis of parking at areas surrounding Wesley College, and the development of economic development projections for future potential development. Some items were included in the study only in a qualitative manner, such as the impact of the City Hall / Central Library parking lot, which is adjacent to the main parking areas examined.

Project Boundaries

In terms of project boundaries, the primary study area was bound by Water Street to the south, West Street to the west, Fulton Street to the north and State Street to the east. Additionally we also studied the area around the City Hall Lot which is bound by State Street to the west, Division Street to the north, Loockerman Street to the south and Park Drive to the east. Due to stakeholder input, this area was then extended south to Water Street. (see Figure 1, on the next page)

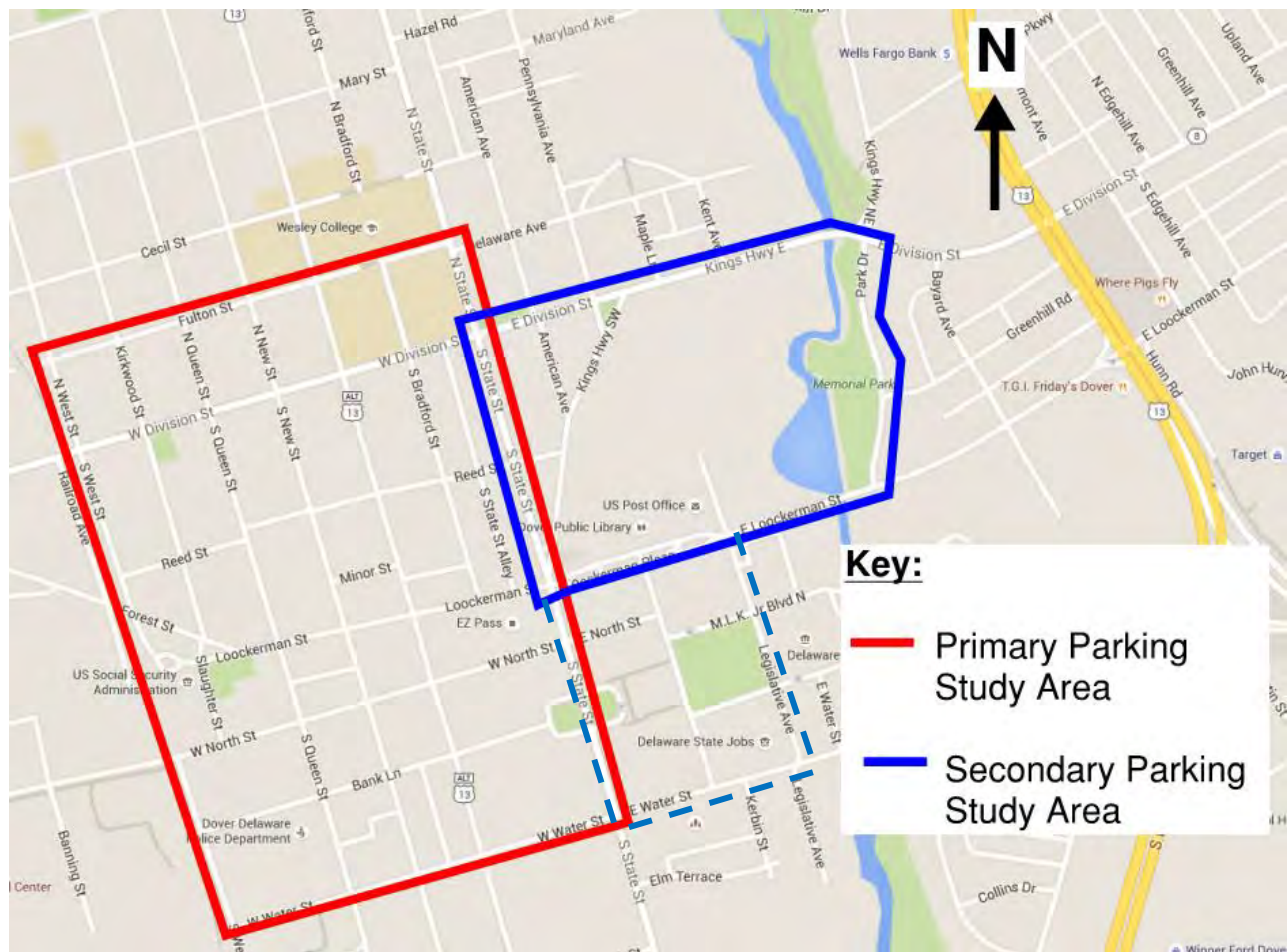
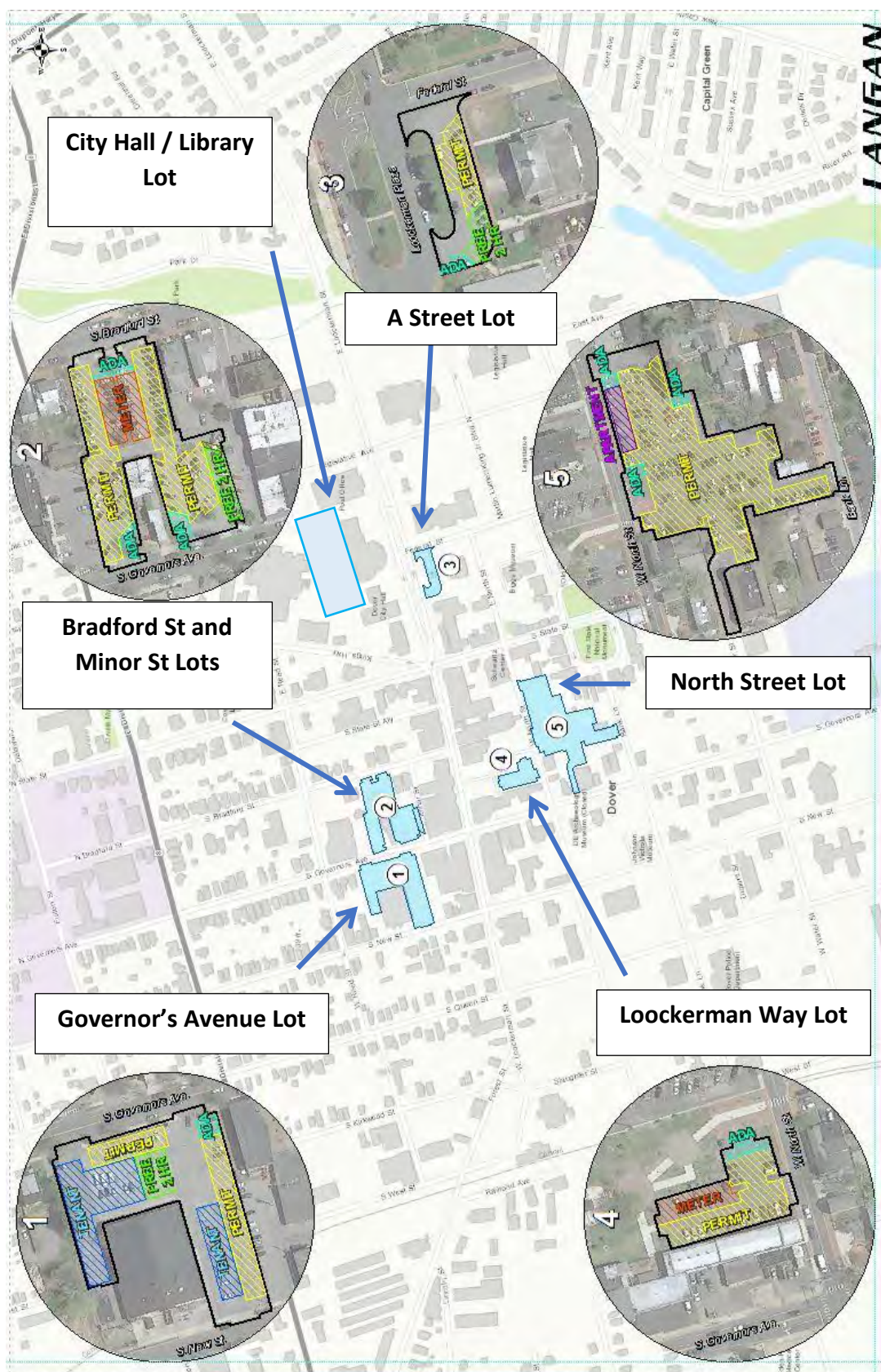


Figure 1: On-Street Parking Study Areas

In addition, the study examined these main public parking facilities (see Figure 2, below):

1. Governor's Avenue Lot – located near the western edge of downtown, between Governor's Avenue and New Street, just north of Loockerman Street
2. Bradford Street Lot – located between Bradford Street and Governor's Avenue, just north of Loockerman Street; and Minor Street Lot – a minor lot located immediately adjacent to and south of the Bradford Street lot
3. A Street Lot – located off Loockerman Street, just east of its intersection with State Street
4. Loockerman Way Lot – a lot located between Governor's Avenue and State Street, just south of Loockerman Street, it today is only accessible from the south, on North Street
5. North Street Lot – located across the street from the Loockerman Way Lot, it is the largest lot in the public system and is accessible from North Street on its north and bank Lane on its south.



As mentioned before, the City Hall / Library Lot located near these main public parking lots was only qualitatively considered in the analysis; no counts or parking analyses were conducted for it.

Project Milestones

Once the goals and geography for the project were established, the project team began its work. Ultimately, these were the major milestones of the project:

- Project Kick-Off Meeting – September 21, 2016
- Site Field Views – multiple
- Steering Committee Meeting #1 – November 14, 2016
- Parking Counts – conducted between December 2016 and March 2017
- Steering Committee Meeting #2 – March 7, 2017
- Public Meeting #1 – March 29, 2017
- Public Meeting #2 – May 31, 2017
- Public Meeting #3 – August 24, 2017
- Public Survey – open from August 24 to November 7, 2017
- Steering Committee Meeting #3 – November 7, 2017

These milestones are described in more detail in the chapters following.

3. Existing Conditions

An objective and thorough analysis of existing conditions is the key element needed to kick-off a successful parking study. Our existing conditions analysis included a review of information from previous studies, a review of current regulations and land uses in downtown Dover, the performance of new parking counts to determine how on-street and off-street parking areas are currently being utilized, and an analyses of the main issues revealed by this data.

Review of Previous Parking Study

One of the main studies providing initial guidance to the current effort was KSK's Downtown Dover Parking Study completed in February 2004 (see Appendix A). That study identified two main components to the "parking problem" in downtown Dover:

- The perception that parking was unavailable or far from shops and restaurants, and
- The potential for a shortfall due to permit parking rebates offered to prospective developers

The study presented an incremental approach to address this problem, starting with cost efficient enhancements to maximize the utility of existing parking supply, proceeding to new surface lot investments, and ultimately progressing to the proposed construction of an above ground parking structure (or structures) when development momentum reached a critical level. These three steps can be summarized as follows:

1. General Upgrades
 - a. Enhance wayfinding system
 - b. Upgrade quality and aesthetics of streets and intersections
 - c. Animate pedestrian routes and reduce dead spaces
2. Lot Reconfiguration
 - a. Reallocate City Hall lot spaces
 - b. Install meter system in Bradford Street lot
 - c. Install meter system in North Street lot
 - d. Install meter system in City Hall lot
3. New Facilities
 - a. Implement shared contributor program
 - b. Build new surface lot on North St off Governor's Avenue (with future potential for a North Street garage)
 - c. Expand the Water Street lot
 - d. Long term planning and development for a Governor's Avenue redevelopment and Governor's Ave or City Hall garage

The study also recommended several operational improvements, which were considered separately.

Comparing these recommendations with the existing conditions today, we know that some were fully implemented, some only partially implemented, and some were not implemented or were not successful.

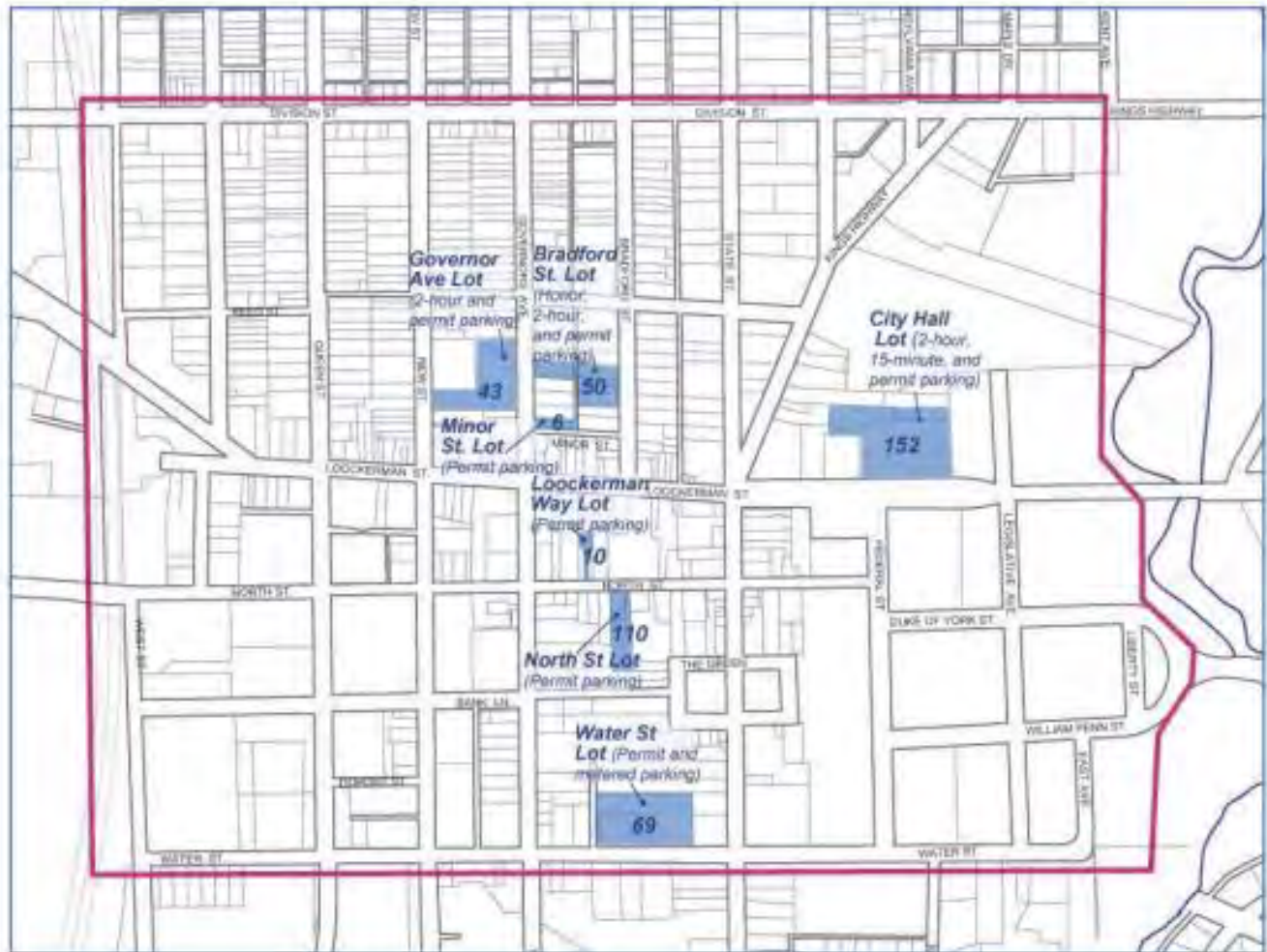


Figure 3: Off-Street Parking Lot Study Areas in 2004

First, it must be noted that many parking lots were reconfigured, created, or eliminated since the original study was completed in 2004, as follows:

1. Governor's Avenue Lot – the number of parking spots between 2004 and 2017 in this lot increased from 43 to 103.
2. Bradford Street Lot – the number of spots in this lot increased from 50 to 111, as additional parcels were added on the southwest corner of the lot, adjacent to the Minor Street Lot. The Minor Street Lot itself saw an increase from 6 spots to 8 spots.
3. A Street Lot – this lot did not formally exist in 2004. It now has 20 spots.
4. Lookerman Way Lot – the number of spots increased from 10 to 35.
5. North Street Lot – this lot was greatly expanded, with the consolidation of disparate private lots to the east, west, and southwest, and the number of spots increased from 110 to 183 spots.
6. Water Street Lot – this lot, originally controlled by the City, was eliminated from City control with the construction of 102 W. Water Street in 2001 (today, the office building for the State Attorney General and a Nemours medical facility) and the addition to the Kent County Courthouse in 2010. Back in 2004, this lot had also housed bus operations, which actually effectively created a disincentive for users to park there. The bus operations were transferred to the new Dover Transit Center further down Water

Street when that facility was completed with ARRA funding in 2010. The lot was converted to state control and 69 spots were no longer available to the public.

7. City Hall / Library Lot – this lot remained unchanged, with 152 spots⁴.

In summary, despite the loss of the Water Street lot, the total number of parking spots under city control actually increased during this period from 440 to 612 spots.

Second, the study recommended improving wayfinding in the Downtown area. Only 8 of 16 proposed locations have signs today, some provide incomplete directions, and a couple of them (the ones pointing to the Bradford Street Lot, for example) point to lots that are almost exclusively reserved for permit parking, thus misdirecting a potential visitor or customer (see Figure 4, below).

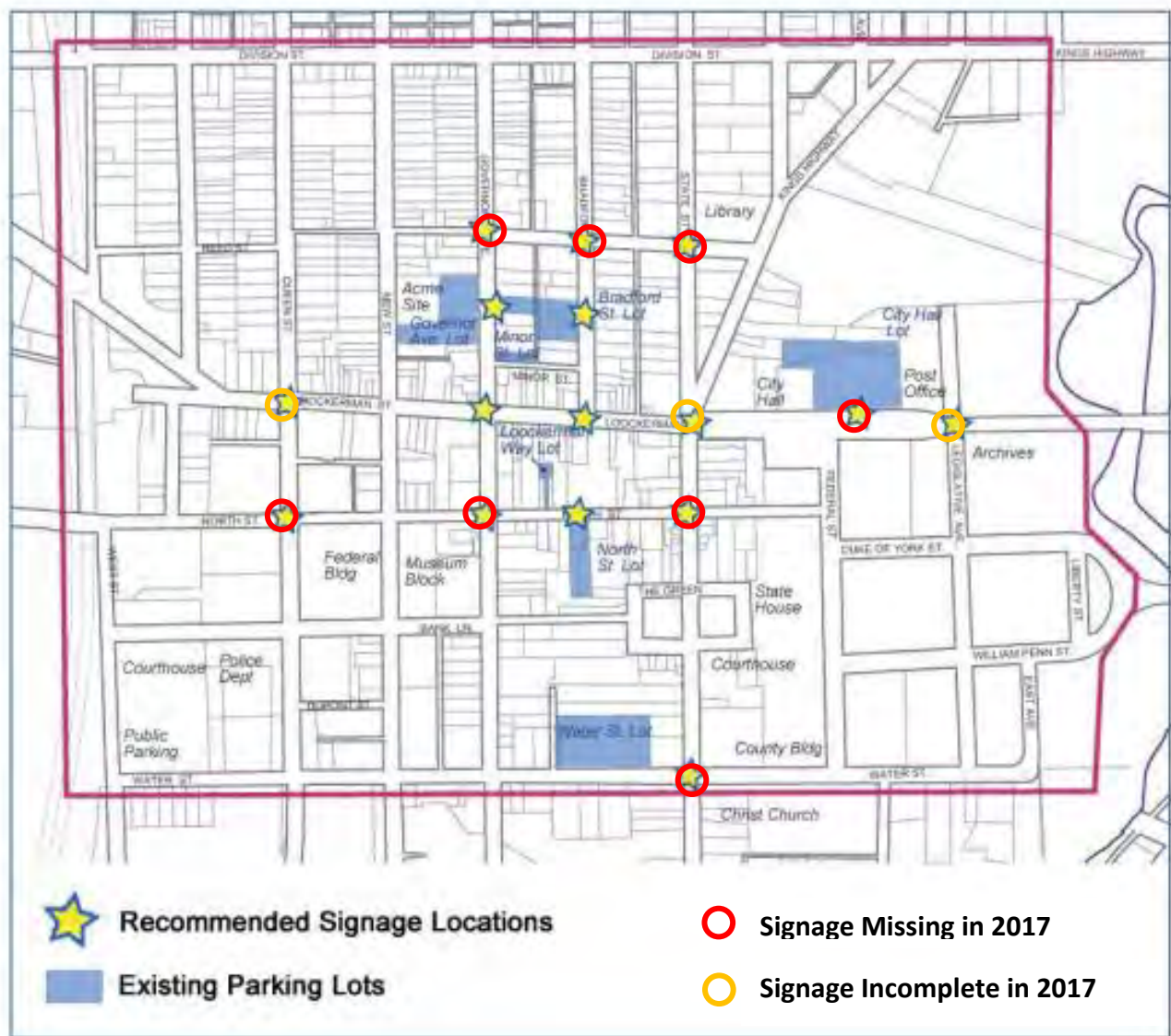


Figure 4: Recommended Parking Signage Installation Locations from 2004 Study

Finally, the study also recommended further streetscape improvements to enhance the ease of pedestrian navigation to and from parking lots, as well as the perception of safety. Even though minor improvement were

⁴ A portion of the City Hall lot is used by municipal staff and other city-owned vehicles all day, so technically not all of the 152 spots are available for free 2-Hour parking.

done to Lookerman Street and one section of North Street, most sections remained untouched (and, as will be seen in following sections, our current study has further recommendations for enhancement). See Figure 5, below, for details.



Figure 5: Recommended Streetscape Enhancements from 2004 Study

The review of the status of the proposed enhancements does not intend to seek blame upon anyone; instead, it is intended just as an honest assessment of which recommendations were fully implemented, which only partially implemented, and which were not implemented. There may have been multiple causes for not implementing a specific recommendation, including lack of funding, the impact of the Great Recession of 2007-2010, changed conditions on the ground, or many others.

Table 1, on the next page, summarizes the status of each of the recommendations from the 2004 study.

Table 1: Status of Recommendations from 2004 Study

Recommendations from 2004 Study	Status of Item in 2017	Implementation Status	Successful / Not Successful?
General Upgrades			
a. Enhance wayfinding system	Some signage was installed, but more than half was not; what remains is insufficient or provides incomplete direction. In addition, parking lots are still not visible from main arterials (Loockerman and State Streets); and signage directs visitors to some parking lots which are completely or significantly reserved solely for permit parking, thus providing misleading information and aggravating visitors.	Partial	Unsuccessful
b. Upgrade quality and aesthetics of streets and intersections	In the past decade, at least two streetscape enhancement projects were conducted on Loockerman Street, one of which included actual reconstruction of streetscape. However, side streets and lighting issues were not addressed; some retailers complain of tree overgrowth hampering the visibility of their window displays and tree roots damaging sidewalks; and additional enhancements would be welcome.	Partial	Partially successful
c. Animate pedestrian routes and reduce dead spaces	Loockerman Street and Loockerman Plaza saw some enhancements. Side streets and vacant storefronts and vacant lots still present significant challenges.	Partial	Partially successful
Lot Reconfiguration			
a. Reallocate City Hall lot spaces	After the conclusion of the construction of the new Library in 2012, the City Hall lot reopened with a smaller footprint and with free 2-Hour parking. It today offers the most aesthetically-pleasing parking lot within the CBD, and the one that best complies with current design standards. However, the recommendation from the original 2004 study was to convert most spaces in this lot to either permit spaces (thus opening up the possibility of converting permit spaces in other lots to visitor spaces, much closer to the businesses on Loockerman Street) ; or to metered spaces. None of these conditions was implemented.	Recommendation not implemented	Unsuccessful
b. Install meter system in Bradford Street lot	A central parking payment kiosk was installed, and \$1 maximum daily parking rate instituted. However, permit spaces from the Bradford Street Lot were not transferred over to the City Hall Lot. Thus, the projected additional supply of spots for visitors / shoppers was not provided.	Partial	Unsuccessful

Recommendations from 2004 Study	Status of Item in 2017	Implementation Status	Successful / Not Successful?
c. Install meter system in North Street lot	The North Street lot was expanded, but all its parking spots are reserved for permit parking. Thus, no spots for visitors / shoppers are provided	Recommendation not implemented	Unsuccessful
d. Install meter system in City Hall lot	Free 2-Hour parking is the current policy for this lot.	Recommendation not implemented	Unsuccessful
New Facilities			
a. Implement shared contributor program	Program was not implemented.	Recommendation not implemented	Unsuccessful
b. Build new surface lot on North St off Governor's Avenue (with future potential for a North Street garage)	The North Street lot was expanded, but all its parking spots are reserved for permit parking. Thus, no spots for visitors / shoppers are provided	Partial	Unsuccessful
c. Expand the Water Street lot	<p>The Water Street lot was lost from City control with the construction of 102 W. Water Street in 2001 (today, the office building for the State Attorney General and a Nemours medical facility) and the addition to the Kent County Courthouse in 2010. The lot was converted to state control and 69 spots were lost.</p> <p>(Note: Back in 2004, this lot had also housed bus operations, which actually effectively created a disincentive for users to park there. The bus operations were transferred to the new Dover Transit Center further down Water Street when that facility was completed with ARRA funding in 2010).</p>	Recommendation not implemented	Unsuccessful
d. Long term planning and development for a Governor's Avenue redevelopment and Governor's Ave or City Hall garage	Program was not implemented.	Recommendation not implemented	Unsuccessful
Operational Improvements			
a. Add Price Flexibility	<p>The report analyzes different potential pricing strategies, including reducing the cost of the monthly permit parking or charging for 2-hour parking. Ultimately, it recommended an intermediate measure, the installation of metered parking at 25 cents per hour up to \$1 daily maximum, at several strategic locations, including at the Bradford St lot, City Hall lot, and North St lot.</p> <p>Only a small portion of the Bradford St lot was ultimately reserved for this metering.</p> <p>Several unintended consequences resulted, including additional confusion from adding one more type of pricing, the</p>	Limited	Unsuccessful

Recommendations from 2004 Study	Status of Item in 2017	Implementation Status	Successful / Not Successful?
	lack of additional metered spots during times of high-demand, and no impact in reducing the “Car-surfing” culture at free 2-hour spots.		
b. Site-specific Modification / Reallocation	The report also recommended reconfiguration of the City Hall lot, the State-owned Armory lot, and the West End Federal Building lot. None of these were implemented as intended.	Recommendation not implemented	Unsuccessful

In summary, we can make the following general observations when we contrast the recommendations from the 2004 study with the existing conditions:

1. General Upgrades:
 - a. Even though some wayfinding signs were installed, no comprehensive system was implemented, and this is still one of the major weaknesses of the system today
 - b. Quality and aesthetics of streets and intersections and pedestrian animation efforts have fallen short of expected and should be re-emphasized
2. Lot reconfiguration options have been implemented on a very limited basis and have ameliorated some of the issues. However, the confusing allocation of different types of parking (permit, 2-hour, etc.) has likely reduced or eliminated most positive results from these efforts.
3. New facilities – some redevelopment has taken place in downtown Dover already, most notably the recruitment of the EZ Pass facility to downtown, and the development of a residential mixed-use building at the corner of Loockerman Street and Governor’s Avenue. However, due to the age of the recommendations and the changing development scene⁵, the suggestions and proposed redevelopment timeline of the original report need to be revisited.
4. In hindsight, all the recommendations from the 2004 report had the right intentions, but in implementation were lost or not implemented at the right scale. For example, additional wayfinding and streetscaping are needed – but only minor improvements were made after the report was completed. On the other hand, the optimism of Pre-2009 Recession redevelopment efforts probably colored the recommendations for major lot reconfigurations and for the construction of parking garages. Post-recession, a more incremental approach seems to be more reasonable.

Review of Current Regulations and Land Uses in Downtown Dover

After reviewing the 2004 Parking Study, the project team also performed a quick review of current regulations and land uses in downtown Dover. One of the major items criticized in the 2004 study was the fact that the City of Dover was allowing new office development with fewer parking spaces than typically required by code, which led to additional demand on the public parking lot system.

At the time, each new office development was required by code to provide one space per 300 square feet; but several reduction factors were commonly utilized to reduce this requirement, including:

- 20% reduction if within the downtown development target area
- 5 spaces reduction for each vanpool space

⁵ For example, during the time the current study was conducted, a developer had proposed the redevelopment of Loockerman Plaza into a multifamily residential building. That project was placed on hold near the conclusion of the current study.

- 3 spaces reduction for each carpool space

The study instead recommended that the City of Dover adopt a “Cost In Lieu” program where developers would contribute to a parking fund that would help fund public parking enhancements (and potentially streetscape enhancements) downtown. In effect, such a fund would be more efficient in creating a centrally-located parking facility that would benefit both public and private.

Even though an official parking fund was never created, the city’s zoning ordinance currently allows developers to pay cash-in-lieu of constructing parking in order to secure a parking waiver from the Planning Commission. This in a sense was a large step towards the creation of the parking fund. However, under current conditions, funds raised are not dedicated solely to parking. Another factor to take into consideration is that development pressure also subsided somewhat after the 2007-2010 Great Recession, reducing the opportunities for raising significant funds for a parking fund. If in the near future there is significant development pressure in Dover, the City could reexamine the potential for a parking fund.

Finally, recent planning and zoning trends around the nation have shifted to encourage more walkability, bikeability, and use of transit, as well as the reduction in the use of parking maximum requirements for new developments. Since 1997, the City of Dover has made great strides in creating a more bicycle- and pedestrian-friendly city, including:

- Achieving a Bicycle-Friendly Community Bronze Level recognition from the League of American Bicyclists (2017-2021)
- Issuing the city’s Bicycle Plan and Pedestrian Plan; and securing funding for design and construction of the #1 bicycle facility priority for the city, the Senator Bikeway (2015)
- Completing Phases I and II of the Capital City Trail (2014)
- Enhancing pedestrian access along North Street (DelDOT streetscape – 2013)
- Adding bicycle lanes to portions of South Governor’s Avenue and US 13 (2012), and to DelDOT improvement projects including on College Road, Walker Road and East Loockerman Street
- Enhancing pedestrian access to Booker T Washington and Town Point Elementary Schools, and William Henry and Central Middle Schools (Safe Routes to School – 2010 and 2011)
- Incorporating pedestrian signals and enhanced crosswalks on Del DOT improvement projects, including on Division Street, North Street, and West Loockerman Street (2007)
- Building the Isaac Branch Trail, part of the St. Jones River Greenway (2007)

These pedestrian and bicycle enhancements, along with potential transit enhancements, have the potential to reduce pressures on the parking system and increase the residential and commercial vitality of downtown. We are encouraged by the active role the City’s Bicycle and Pedestrian Subcommittee and other city agencies have taken to implement better infrastructure. In relation to zoning, we would encourage the City of Dover to continue to periodically reexamine its zoning and building requirements in light of the current progress in this field (even though we did not specifically include this recommendation in our final recommendations included in Chapters 6 and 7, below).

Parking Inventory

To better understand current parking patterns and behaviors, and what changes might have occurred since the 2004 study, we conducted an inventory of the available public and private parking in the downtown study area. The study team received information about public lots from the City of Dover, and supplemented it with field checks; assisted City staff in counting the number of on-street parking spots; and performed a count of private parking lot spaces from aerial photography.

There are approximately 1,762 parking spaces within the study area, including 607 On-Street public spaces, 459 Off-Street public parking spaces, and an estimated 696 Off-Street private parking spaces.

Figure 6, below, shows how much of downtown paved parking already occupies – between a third to a half of all of downtown is already covered in pavement and used in parking.

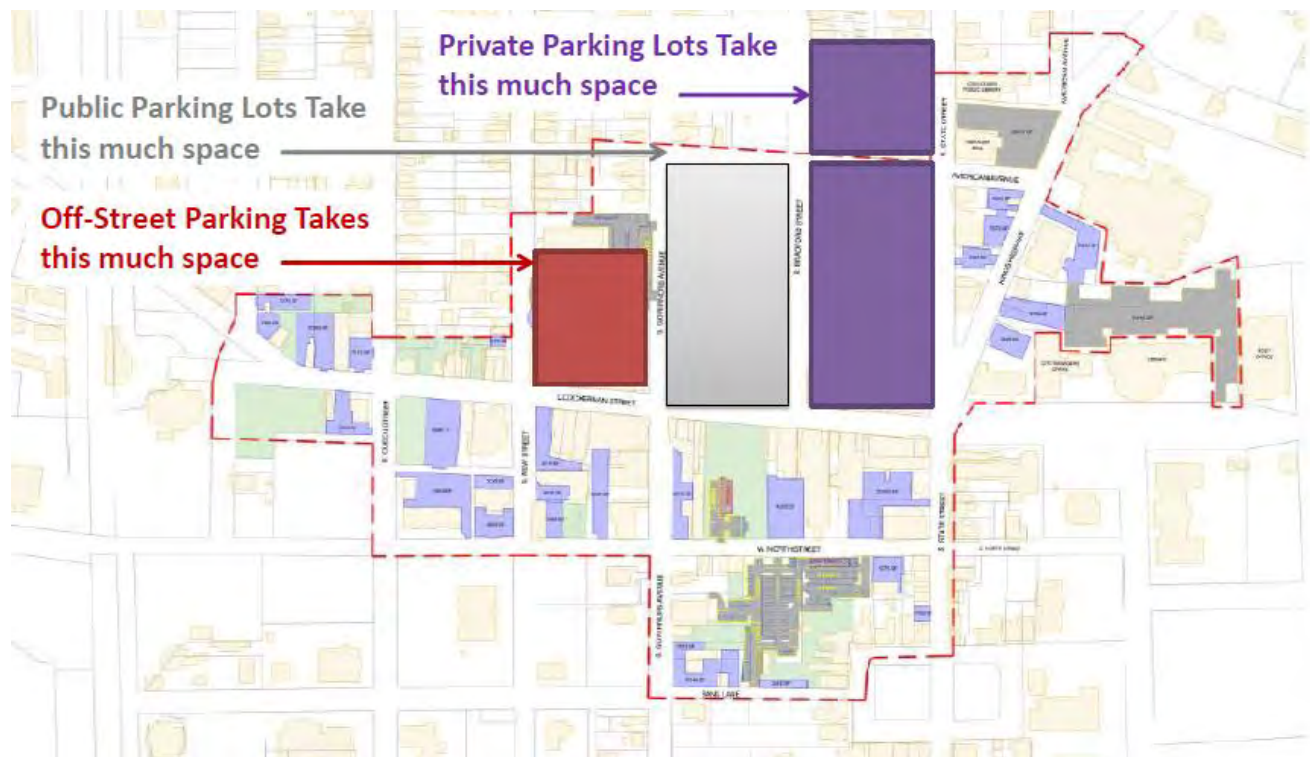


Figure 6: Representative Areas Occupied by Paved Parking Areas within Downtown

Of the 1,119 public parking supply (both on-street and off-street):

- 37% (394 spaces) are permit spaces or somehow reserved for staff or tenants
- 32% (346 spaces) are Free 2-Hour parking spots
- 28% (302 spaces) are basically Free on-street parking spots (where there is no sign posted)
- 3% (32 spaces) are Metered off-street spaces, costing \$0.25 per hour up to a maximum of \$1 daily
- 3% (32 spaces) are ADA spaces
- 1% (11 spaces) are Free 30-minute spaces
- 0.2% (2 spaces) are Free 15-minute spaces

Parking Counts

The next step in the process was to conduct field parking counts of both on-street parking and off-street public parking lots. The project team first developed a parking count strategy and data collection forms. Langan assisted the City and DKCMPO in developing these, and the City then provided field staff to conduct the actual counts.

On-street parking counts were conducted on December 8, 2016. Later, counts were conducted on off-street public parking lots on January 19, 2017 and February 22, 2017. Care was taken to conduct the counts on representative regular business days (with no special events or holidays), with clear weather⁶.

⁶ Counts had originally been scheduled to take place earlier in the Fall of 2016. However, due to administrative and funding issues, the team was not able to conduct counts before the 2016 holiday season. However, upon review, the data collection was deemed

On-Street Parking

On-street parking counts were conducted on the following blocks:

- Loockerman Street
 - North side, in front of Post Office
 - North side, in front of City Hall and library
 - North side, from State Street to Bradford Street
 - North side, from Bradford Street to Governor's Avenue
 - North side, from Governor's Avenue to New Street
 - North side, from New Street to Queen Street
 - South side, from New Street to Queen Street
 - South side, from Governor's Avenue to New Street
 - South side, from Bradford Street to Governor's Avenue
 - South side, from State Street to Bradford Street
- Loockerman Plaza
 - South side, west of church
 - South side, in front of the church
 - South side, between Federal Street and Legislative Street
- South Kings Highway
 - East side, from intersection with Loockerman Street to DNREC crosswalk
 - East side, in front of DNREC Building
 - East side, from street split to Division Street
 - East side, from Reed Street to State Street
 - West side, fronting the triangle
 - West side, short stretch
 - West side, behind Wendt Hall
 - West side, from Reed Street to State Street
- Pennsylvania Street
 - East side, fronting the triangle
 - West side, fronting the triangle at Governor's Café
- American Street
 - East side, from Kings Highway to Division St
 - West Side, from Division to Kings Highway

representative of a regular business day, since December 8 was early enough before holiday shopping went into full swing and before local workers started their vacation schedules. Public parking lot counts were repeated in late February to check for the impact of any vacation or cold weather issues in January. No significant impact was noted.

- S State Street
 - East side, from Kings Highway to Reed Street
 - West side, from Reed Street to Loockerman Street
- Bradford Street
 - East side, from Loockerman Street to Reed Street
 - West side, from Reed Street to Loockerman Street
- Governor's Avenue
 - East side, from Loockerman Street to Reed Street
 - West side, from Reed Street to Loockerman Street
 - West side, from North Street to Loockerman Street
- S New Street
 - East side, from Loockerman Street to North Street
 - West side, from North Street to Loockerman Street
- Federal Street
 - East side, from Loockerman Street To MLK Boulevard
 - East side, at the end of Legislative Mall
 - East side, from MLK Boulevard to Water Street
 - West side, from Water Street to MLK Boulevard
 - West side, at the end of Legislative Mall
 - West side, from North Street to Loockerman Street
- MLK Boulevard
 - North side, from Federal Street to Legislative Street
 - North side, adjacent to Legislative Mall
 - South side, adjacent to Legislative Mall
 - South side, from Federal Street to Legislative Street
- Water Street
 - North side, adjacent to Cooper Building
 - North side, adjacent to rear of Haslet Armory
 - North side, reserved DOC towards Federal Street
 - South side, from Legislative to Kerbin Street
 - South side, from Kerbin Street to State Street
- The Green
 - Outside loop
 - Inside loop
- Bank Lane

- South side, for one block

The total number of on-street parking spots in the project area was determined to be 607, of which 14 were permit-only and 12 were ADA spots, reserved for those with disabilities. Examining the data collected, we then determined the peak occupancy rates, as follows:

Peak Hour Occupancy Rate – we found the peak hour of occupancy across the entire study area to be the 12:30pm-1:30pm hour and calculated the peak occupancy rate at 75%. See Table 2, below.

Hour	Occupied	%Occupied
8:30 AM	379	62%
9:30 AM	394	65%
10:30 AM	404	67%
11:30 AM	394	65%
12:30 PM	453	75%
1:30 PM	450	74%
2:30 PM	405	67%
3:30 PM	346	57%
4:30 PM	232	38%
5:30 PM	155	26%

Peak Hour Spaces
12:30 -1:30
PM 453

Table 2: Peak Occupancy – On-Street Parking

In addition, we also calculated the peak occupancies for permit spots at 57% and for ADA spots at 67%.

Peak Hour Violations Rate – we found the percentage of vehicles parked during the 12:30pm-1:30pm peak occupancy hour on each block that were or would be in violation of the parking time limits. Such vehicles had either overstayed the time limit by this time or would go on to overstay the time limit while parked in this same space. Overall, the violation rate was 16% during this peak hour.

The occupancy rate data also provides insight into which blocks have the largest demand, which generally are:

- State Legislative Parking – segments surrounding Legislative Mall
- Municipal Parking – on Loockerman Plaza in front of City Hall and the Library
- DNREC Parking – on Kings Highway and American Street, in areas adjacent to the DNREC Building
- Retail parking – on Loockerman Street, on the north side between New Street and Queen Street and the south side between Bradford Street and State Street

Off-Street Parking

Off-street parking counts were conducted on the following parking lots:

- Governor's Avenue Lot – located near the western edge of downtown, between Governor's Avenue and New Street, just north of Loockerman Street

- Bradford Street Lot – located between Bradford Street and Governor’s Avenue, just north of Loockerman Street; and Minor Street Lot – a minor lot located immediately adjacent to and south of the Bradford Street lot
- A Street Lot – located off Loockerman Street, just east of its intersection with State Street
- Loockerman Way Lot – a lot located between Governor’s Avenue and State Street, just south of Loockerman Street, it today is only accessible from the south, on North Street
- North Street Lot – located across the street from the Loockerman Way Lot, it is the largest lot in the public system and is accessible from North Street on its north and bank Lane on its south.

The total number of off-street parking spots in these parking lots was determined to be 459, of which 380 were permit-only and 18 were ADA spots, reserved for those with disabilities.

Examining the data collected, we then determined the peak occupancy rates, as follows:

Peak Hour Occupancy Rate – The overall peak hour for all lots was found to be 11am-12p with 63% occupancy. See Table 3, below, for details.

Hour	Occupied	%Occupied
8:00 AM	177	39%
9:00 AM	237	52%
10:00 AM	286	62%
11:00 AM	291	63%
12:00 PM	260	57%
1:00 PM	250	54%
2:00 PM	261	57%
3:00 PM	272	59%
4:00 PM	211	46%
5:00 PM	144	31%

Peak Hour Spaces
11:00 -12:00
PM 291

Table 3: Peak Occupancy – Off-Street Parking

In addition, we also calculated the peak occupancies for permit spots at 63% and for ADA spots at 44%.

However, we also noted that the peak occupancy for individual lots varied widely, with a minimum occupancy of 21 percent for the Governor’s Avenue lot and a maximum occupancy of 84 percent for the North Street lot. See Table 4, below, for details.

Parking Facility	Spaces	% Occupancy
A Street	20	65%
Loockerman	35	83%
North St	183	84%
Government Ave	103	21%
Minor Street	8	63%
Bradford	110	63%
Total	459	63%

Table 4: Peak Occupancy – Off-Street Parking per Lot

Finally, several additional observations can be made in relation to the data collected for these lots:

- The Lookerman and North Street lots consistently have the highest average occupancy rates, in the 65% to 80% range. This reflects the dedicated permit spots reserved for employees of the firms which acquired the permits.
- The A Street lot and especially the Governor's Avenue lot have the lowest average occupancy rates, as low as 9% for the Governor's Avenue Free parking spots lot. This shows that visitors are unaware of the free parking available to them, as close as the A Street lot or as numerous as those available in the Governor's Avenue lot.
- The Lookerman and North Street lots seem to have a morning peak occupancy period, especially in permit parking spots. In contrast, the Bradford lot seems to have a midday peak, especially on the metered spots. This reflects the day-long employee / permit parking focus of the first two lots; and the slightly more visitor-focused orientation of the Bradford Street lot.

Special Event Parking

Based upon consultation with the Steering Committee and stakeholders, the consensus on special event parking seemed to be that it was not a large concern or issue. For events such as Dover Days, the Fourth of July fireworks, or Comicon, the feedback is that most visitors do not seem to mind parking at further distances, outside the available downtown Dover parking lots, and walking longer distances. In fact, this seems to indicate that the "critical mass" of large crowds has a psychological effect of making these longer walks seem shorter and safer.

The only partial exception to this rule were the expressed parking needs for the Schwartz Center for the Arts. This downtown Dover institution had a critical need to raise revenue by hosting additional small and medium scale events, especially during weekday business hours. However, the institution had no dedicated parking and thus could not accommodate many of this type of event. Unfortunately, the center was forced to shut down as this study was being conducted, due to insufficient revenues.

Data Analysis

The industry standard for optimal parking utilization is typically seen as 85% occupancy for on-street parking and 90% for off-street parking. Beyond this range of parking utilization, a small number of spaces may be available, but it is generally difficult for parkers to find these spaces. In addition, some of the available spaces may be compromised due to improperly parked vehicles in adjacent spaces. To account for this, the actual parking supply is typically reduced by 10-15% to determine effective supply.

If we compare these rates with downtown Dover's 63% off-street and 75% on-street occupancy rates, it can be seen that there is no scarcity of parking downtown. In effect, if better managed, the existing parking capacity could manage even higher volumes of users.

To further check on this initial comparison, we also prepared a quick model of the current parking demand in downtown Dover, based on guidance contained in the Institute of Transportation Engineers' (ITE's) Parking Generation Manual, 4th Edition (2010)⁷. The model was run with zoning and occupancy data we collected from the City of Dover's Tax Parcel Assessor database. Table 5, on the next page, summarizes the results of the analysis.

⁷ ITE standards are based on parking demand studies submitted to ITE by a variety of parties, including public agencies, developers and consulting firms. The 4th Edition of the Parking Generation Manual is the most current edition, and is the preferred methodology nationally to determine baseline parking demand assumptions. We utilized adjustment factor to ITE standards, since it is common knowledge in the profession that ITE values are appropriate for suburban shopping malls, and common practice to adjust for urban areas such as Dover.

Land Use	Number of Parking Spots Required	% of Total
Commercial	414	28% of total supply
Office/Industrial	823	55% of total supply
Residential	260	17% of total supply
TOTAL	1,498	85% of Existing Supply
<i>Existing Supply</i>	1,762	

Table 5: Peak Occupancy Model – Total Parking Required and Available

As can be seen, the current demand projection never exceeds 85% of the current existing supply.

This model very likely overestimates the total demand for parking, since it assumes that all current properties are fully occupied (no vacancies) and that different types of demand creators will have constant peaks throughout the day. In reality, different uses have distinct peaks – for example, residents of downtown Dover will have peak demand at night, when they return from work; while downtown Dover office workers will have peak demand in the morning and afternoon, when they are at work.

Thus, we also analyzed the time of day distributions of parking needed, by modeling the actual peak demands expected for each type of use.

The actual peak use expected for the entire system actually saw two small peaks in the late afternoon / early evening, reaching 59% at 6 pm and 60% at 9 pm. These two peaks reflect the expected overlap between office workers and retail still being open late in the afternoon, when some residents will already be coming back home from their jobs located in other parts of the region.

Table 6, below, summarizes the results of the model.

Land Use	Number of Parking Spots Required by Time of Day																			
	12- 4 am	5 am	6 am	7 am	8 am	9 am	10 am	11 am	Noon	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	8 pm	9 pm	10 pm	11 pm
Commercial	0	0	0	37	66	228	236	348	348	344	389	373	335	385	414	385	397	360	0	0
Office/Industrial	528	539	453	502	445	453	457	445	417	386	416	429	447	459	443	388	431	480	496	507
Residential	260	254	234	184	150	25	24	23	22	23	25	28	116	155	180	177	199	210	240	245
TOTAL	788	793	687	723	661	706	716	816	788	753	830	830	898	1000	1037	950	1028	1050	736	752
Calculated Peak Occupancy	45%	45%	39%	41%	38%	40%	41%	46%	45%	43%	47%	47%	51%	57%	59%	54%	58%	60%	42%	43%

Table 6: Peak Occupancy Model – Total Parking Required and Available – Time of Day Distribution

In other words, the current demand projection for the entire system, when adjusted for the time of day factor, never exceeds 60% of the current existing supply.

Accordingly, the data confirms the empirical observations and the stakeholder and user feedback that the issue with parking downtown seems to be that it is confusing. It is difficult to find the right kind of parking one is looking for, and all the different rates and types of parking available just creates a situation where new and occasional visitors avoid downtown because of the confusion.

Finally, we also prepared a model of potential future parking demand, based on the potential build-out scenario provided by the City of Dover. For more details, see Chapter 6.

4. Public Outreach Process

One of the keys of a successful parking study is the opportunity for stakeholders and the public to provide information and feedback as the study progresses. This study had frequent outreach to the Steering Committee, created for the purpose of providing information and advice to the project team, as well as checking interim deliverables and recommendations. The project team also performed significant outreach to the public, including three public meetings and an online parking survey.

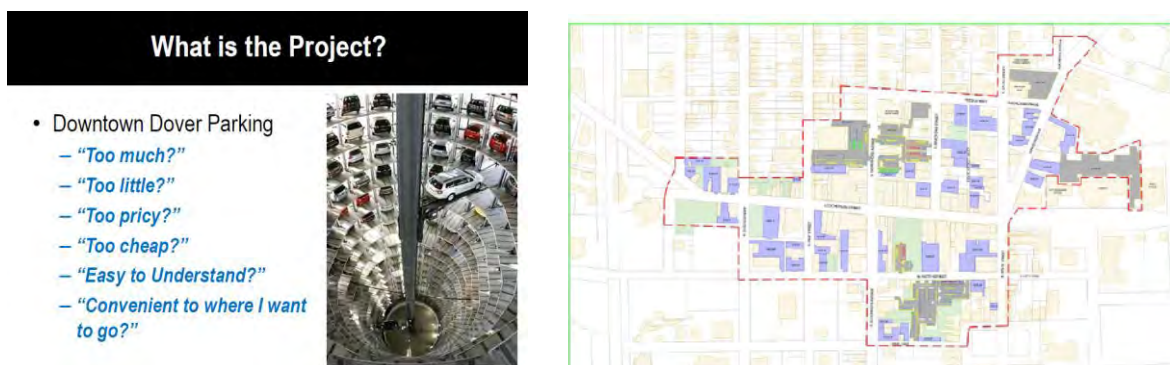
Major milestones in the outreach process included:

- Steering Committee Meeting #1 – November 14, 2016
- Steering Committee Meeting #2 – March 7, 2017
- Public Meeting #1 – March 29, 2017
- Public Meeting #2 – May 31, 2017
- Public Meeting #3 – August 24, 2017
- Public Survey – open from August 24 to November 7, 2017
- Steering Committee Meeting #3 – November 7, 2017

The Steering Committee provided frequently useful updates and feedback to the team, which were in turn incorporated into information shared with the general public. All three public meetings were held at the Dover Public Library, within the project area; and were held in an open meeting format, where different members of the project team would be at different tables, presenting information about different aspects of the project, and gathering information from those who attended and taking notes. Description of the focus and feedback gathered at each public meeting is presented here:

Public Meeting Number 1 – March 29, 2017

The first public meeting introduced the project team to the public, presented the initial questions that the study would be looking at, and also the preliminary data collected. The questions included: Is there too much or too little parking in downtown Dover? Is it too pricy or too cheap? Is it easy to understand and convenient to where I want to go? It showed the major project boundaries and discussed the goals of the project, and whether they needed any adjustments. Samples of the boards used at each meeting station can be seen below. See Appendix B for all boards used.



Figures 7 and 8: Samples of Boards Used at First Public Meeting

A total of over 35 people attended this meeting, of which 22 non-Steering Committee members signed-in to the meeting (see sign-in sheet in Appendix B). Some of the feedback and suggestions from the public we collected during this meeting included:

- Increased pedestrian and street lighting helps public mindsets over safety and comfort
- Parking rates prices are reasonable, but people will defer to free/reduced cost when in similar proximity
- Increase signage for parking lots and advertise rates and free lot status
- Encourage local businesses to share parking maps and prices to facilitate return patronage
- Consider installing head-in parking on Loockerman Plaza, since it would increase the number of spaces
- Consider making Bradford Street on way going north and include head-in parking there as well
- Contact the state of Delaware and Kent County to see what they say about their parking needs
- There are “hygiene habits” (i.e., urinating and other abnormal behavior in public) and also unwanted teen/pre-teen behavior on West Reed Street
- Consider installation of a Level 2 charging station for electric cars
- Consider installation of bike racks for increased cycling
- Consider installation of designated parking spaces for alternative fuel vehicles
- Consider installation of permeable pavement parking spaces
- Consider installation of solar reflective coatings and shade trees to reduce heat island impacts
- Use recycled asphalt pavement in construction
- Include landscaping and grass paving blocks to make parking more sustainable

Several stations also had “Dot Exercises” to collect data about those attending the meeting and their parking habits. Some of the most relevant information gathered from these exercises included:

- Most attendees usually park on-street on Loockerman Street; or off-street on the City Hall / Library Lot or Bradford Street / Minor Street Lot.
- Most considered that their parking spots were usually close enough to their destinations, and that it generally took less than 5 minutes to find parking; however, nearly all said that signage was inadequate to help them find parking
- By far the two most important factors in choosing where to park were first, location; and second, safety. Only three respondents said price was a factor, and cleanliness, ease to find, and visibility were ranked even lower.
- In regards to safety, we asked those attending the meeting both where they felt safe and where they felt unsafe.
 - Respondents generally felt safest in these areas:
 - On-Street: Loockerman Street
 - Off-Street: City Hall / Library Lot
 - They also felt generally safe in these areas:
 - On-Street: Legislative Avenue, MLK Boulevard, The Green, Kings Highway between Loockerman Avenue and Division Street
 - Off-Street: North Street Lot
 - Only two people responded they felt safe at the Loockerman Way Lot and A Street Lot (note: the latter might have received few votes because few people might know or might have noticed where

it is located). Only one person said they felt safe at the Bradford Street / Minor Street Lot. No one answered they felt safe at the Governor's Avenue Lot.

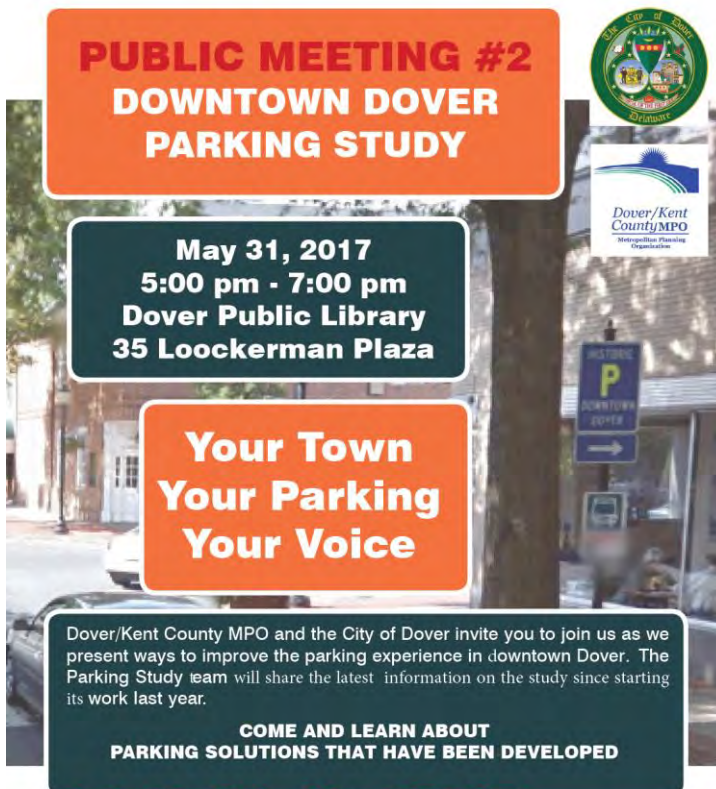
- Respondents generally felt most unsafe at these locations:
 - On-Street: Seemingly paradoxically, they also said Loockerman Street
 - Off-Street: BY far, at the Governor's Avenue Lot, followed by several votes for the Minor Street Alleys and the East State Street Alley, and a few votes for the Bradford St / Minor St Lots.
- In other words, most users felt safest close to City Hall, where there probably is more pedestrian traffic, eyes on the street, and greater police presence; while the feelings of lack of safety increases as one progresses west of City Hall and west of State Street.
- Finally, in a result that parallels the feelings of safety, respondents said that Loockerman Street and the City Hall / Library Lot and the North Street Lot had adequate lighting; while these areas needed more lighting: Governor's Avenue Lot, Bradford and Minor Street Lots, alleys, and The Green.



Figures 9 and 10: Photos of Layout and Response Board from First Public Meeting

Public Meeting Number 2 – May 31, 2017

The second public meeting was used to describe the initial data collected, including the measured occupancies of on-street spots and off-streets lots, and to present four scenarios of how the parking could be improved. These scenarios were precursors to alternatives that would soon be discussed with the steering committee about ways to ease the parking crunch in Dover.



**PUBLIC MEETING #2
DOWNTOWN DOVER
PARKING STUDY**

**May 31, 2017
5:00 pm - 7:00 pm
Dover Public Library
35 Lookerman Plaza**

**Your Town
Your Parking
Your Voice**

Dover/Kent County MPO and the City of Dover invite you to join us as we present ways to improve the parking experience in downtown Dover. The Parking Study team will share the latest information on the study since starting its work last year.

**COME AND LEARN ABOUT
PARKING SOLUTIONS THAT HAVE BEEN DEVELOPED**

Join Us! We Want YOUR INPUT!

Questions: Please call 302-387-6030 or email dovertentmpo@gmail.com.

Preliminary Findings

- On-Street Parking
 - Peak Hour – 12:30 to 1:30 pm
 - Peak Occupancy Rate – 75%
 - Peak Violation Rate – 16%
- Off-Street Parking
 - Peak Hour – 11 am – Noon
 - Peak Occupancy Rate – 63%

Scenario 1:



Figures 11 thru 14: Public Invitation and Samples of Boards Used at Second Public Meeting

[illegible]

A photograph showing two men from the back, looking at a large map or document mounted on a wall. The man on the left is wearing a red polo shirt and has a beard. The man on the right is wearing a white and blue plaid shirt. The map appears to be a street map with various colored overlays. In the background, there is a hallway with a red 'EXIT' sign and a bookshelf.



Langan Engineering / KSK Architects Planners Historians

The response from the public was overwhelmingly positive, with comments praising the concept for eliminating the darkness and reducing the perceived or real safety issues of the alleys located between the Loockerman Street businesses and the parking lots. See Appendix B for all boards used at this meeting.

Public Meeting Number 3 – August 24, 2017

The third and final public meeting was geared to gathering as much feedback as possible, reviewing the issues presented by the different scenarios presented at the previous public meeting; but also having different board and stations set up to get feedback on the public's parking cost sensitivity, on a potential wayfinding strategy for Downtown Dover, and on potential streetscape improvements and gateway enhancements that would enhance wayfinding, safety, and the attractiveness of downtown.

The first station we set up at the Library was geared to gathering feedback on the potential improvement scenarios previously presented. The scenarios were slightly updated from before, with input from the second public meeting and from stakeholders incorporated into the updated versions. The four scenarios are intended to be considered as incremental in nature, increasing in cost and complexity. The scenarios presented at this public meeting were:

Scenario 1 – Consolidated Parking – Under this scenario, changes would be made to the parking layout of the Loockerman Way, Bradford Street, Minor Street, and Governor's Avenue Lots. To simplify the parking experience, 2-Hour and 15-minute parking would be eliminated from the parking lots. Metered and permit parking areas would be consolidated and clearly delineated with colorful striping and signage.

Metered parking areas would now be located closest to the main Loockerman Street shopping areas, at the Loockerman Way Lot (now providing only metered parking), and the eastern end of the Bradford Street Lot. Some permit parking spots would shift west, to the Bradford and Governor's Avenue Lots. Details on individual changes per lot are as follows:

- North Street Lot – total spaces unchanged = 183:
 - Permit parking – Unchanged at 166
 - Apartment Parking – Unchanged at 12, but suggested conversion to permit parking
 - ADA parking – Unchanged at 5
- Loockerman Way Lot – total spaces unchanged = 35:
 - Permit parking – Reduced from 23 to zero
 - Metered Parking – Increased from 10 to 33
 - ADA parking – Unchanged at 2
- Bradford Street Lot – total spaces unchanged = 111:
 - Permit parking – Increased from 72 to 83
 - Metered Parking – Unchanged at 22, but reconfigured from current locations
 - ADA parking – Unchanged at 5
 - 2-Hour Parking: Reduced from 10 to zero
 - 15-Minute Parking: Reduced from 1 to zero
- Minor Street Lot – total spaces unchanged = 8:
 - Permit parking – Unchanged at 8
- Governor's Avenue Lot – total spaces unchanged = 103:

- Permit parking – Increased from 42 to 52
- Tenant Parking – Unchanged at 49, but suggested conversion to permit parking
- ADA parking – Unchanged at 2
- 2-Hour Parking: Reduced from 10 to zero

In summary, Scenario 1 would provide 370 permit spaces (versus 372 previously) and 55 metered spaces (versus 32 previously). It basically preserves the numbers of permits available (the 2 spaces net lost is negligible), while significantly increasing the number and convenience of metered parking spaces.

Scenario 2 – Consolidated Parking Plus New Lot – This scenario presents an alternative to Scenario 1, as it increases the number of parking spaces available by creating a new consolidated public parking lot. That lot would be created by consolidating multiple small private lots located along the State Street Alley (between Lookerman Street and Reed Street). It would provide metered parking areas closest to the main Lookerman Street shopping areas. Details on individual changes per lot are as follows:

- North Street Lot – total spaces unchanged = 183:
 - Permit parking – Unchanged at 166
 - Apartment Parking – Unchanged at 12, but suggested conversion to permit parking
 - ADA parking – Unchanged at 5
- Lookerman Way Lot – total spaces unchanged = 35:
 - Permit parking – Unchanged at 23
 - Metered Parking – Unchanged at 10
 - ADA parking – Unchanged at 2
- Bradford Street Lot – total spaces unchanged = 111:
 - Permit parking – Increased from 72 to 83
 - Metered Parking – Unchanged at 22, but reconfigured from current locations
 - ADA parking – Unchanged at 5
 - 2-Hour Parking: Reduced from 10 to zero
 - 15-Minute Parking: Reduced from 1 to zero
- Minor Street Lot – total spaces unchanged = 8:
 - Permit parking – Unchanged at 8
- Governor’s Avenue Lot – total spaces unchanged = 103:
 - Permit parking – Increased from 42 to 52
 - Tenant Parking – Unchanged at 49, but suggested conversion to permit parking
 - ADA parking – Unchanged at 2
 - 2-Hour Parking: Reduced from 10 to zero
- New State Street Alley Lot – total spaces = approximately 44:
 - Permit parking – None provided
 - Metered Parking – 40

- ADA parking – 4

In summary, Scenario 2 would provide 393 permit spaces (versus 372 previously) and the same number of metered spaces as Scenario 1 (72 versus 32 previously). In contrast to Scenario 1, it increases the numbers of permits available, while also significantly increasing the number and convenience of metered parking spaces. However, because the new parking lot would require acquisition, design, and construction, its cost would be significantly higher than the cost for Scenario 1.

Scenario 3 – Consolidated Parking Plus Expanded Bradford Lot – This scenario presents an incremental improvement over Scenario 1, as it increases the number of parking spaces available by adding land to the Bradford Street parking lot⁸. It also focuses on increasing the number of available permit parking spaces – but it could just as easily shift to provide additional metered spacing, if conditions require. Details on individual changes per lot are as follows:

- North Street Lot – total spaces unchanged = 183:
 - Permit parking – Unchanged at 166
 - Apartment Parking – Unchanged at 12, but suggested conversion to permit parking
 - ADA parking – Unchanged at 5
- Loockerman Way Lot – total spaces unchanged = 35:
 - Permit parking – Reduced from 23 to zero
 - Metered Parking – Increased from 10 to 33
 - ADA parking – Unchanged at 2
- Bradford Street Lot – total spaces increased = from 111 to 132:
 - Permit parking – Increased from 72 to 105
 - Metered Parking – Unchanged at 22, but reconfigured from current locations
 - ADA parking – Unchanged at 5
 - 2-Hour Parking: Reduced from 10 to zero
 - 15-Minute Parking: Reduced from 1 to zero
- Minor Street Lot – total spaces unchanged = 8:
 - Permit parking – Unchanged at 8
- Governor’s Avenue Lot – total spaces unchanged = 103:
 - Permit parking – Increased from 42 to 52
 - Tenant Parking – Unchanged at 49, but suggested conversion to permit parking
 - ADA parking – Unchanged at 2
 - 2-Hour Parking: Reduced from 10 to zero

In summary, Scenario 3 would provide 392 permit spaces (versus 372 previously) and 55 metered spaces (versus 32 previously). Similar to Scenario 2, it increases the numbers of permits available, while also significantly increasing the number and convenience of metered parking spaces. However, because the parking

⁸ Please note that even though the meeting graph might portray a specific site for that expansion, no such specificity is intended. Any neighboring site might be an equivalent addition.

lot expansion would require acquisition, design, and construction, its cost would be significantly higher than the cost for Scenario 1.

Scenario 4 – New Parking Garage – This scenario presents a final incremental improvement over Scenario 3, as it increases the number of parking spaces available by building a new garage at the Bradford Street parking lot. Details on individual changes per lot are as follows:

- North Street Lot – total spaces unchanged = 183:
 - Permit parking – Unchanged at 166
 - Apartment Parking – Unchanged at 12, but suggested conversion to permit parking
 - ADA parking – Unchanged at 5
- Loockerman Way Lot – total spaces unchanged = 35:
 - Permit parking – Reduced from 23 to zero
 - Metered Parking – Increased from 10 to 33
 - ADA parking – Unchanged at 2
- New Bradford Street Garage – total spaces increased = from 119 to over 400:
 - Permit parking – Increased from 80 to over 200
 - Metered Parking – Increased from 22 to over 200
 - ADA parking – Increased from 5 to 15
 - 2-Hour Parking: Reduced from 10 to zero
 - 15-Minute Parking: Reduced from 1 to zero
- Minor Street Lot – total spaces = 0:
 - Permit parking – Reduced from 8 to zero
- Governor’s Avenue Lot – total spaces unchanged = 103:
 - Permit parking – Increased from 42 to 52
 - Tenant Parking – Unchanged at 49, but suggested conversion to permit parking
 - ADA parking – Unchanged at 2
 - 2-Hour Parking: Reduced from 10 to zero

In summary, Scenario 4 would provide 479 permit spaces (versus 372 previously) and 233 metered spaces (versus 32 previously). In reality, numbers could be adjusted within the garage to reflect the needs of permit-holders and customers; and both permits and metered spaces would see an order of magnitude increase. However, the acquisition, design, and construction of the new garage would make it the costliest of all.

In addition to the scenarios described above, the Project Team also shared boards intended to present an introduction for those who attended the public meeting on the potential costs of such investments; as well as boards that were intended to check on how sensitive parking users would be to changes in the parking cost.

How Would You Spend Your ?

Scenario 1	Less than \$100k
Scenario 2	\$1M to \$2M
Scenarios 1 and 2	\$1M to \$2M
Scenario 3	\$1M to \$2M
Scenarios 2 and 3	\$2M to \$4M
Scenario 4	Over \$4M

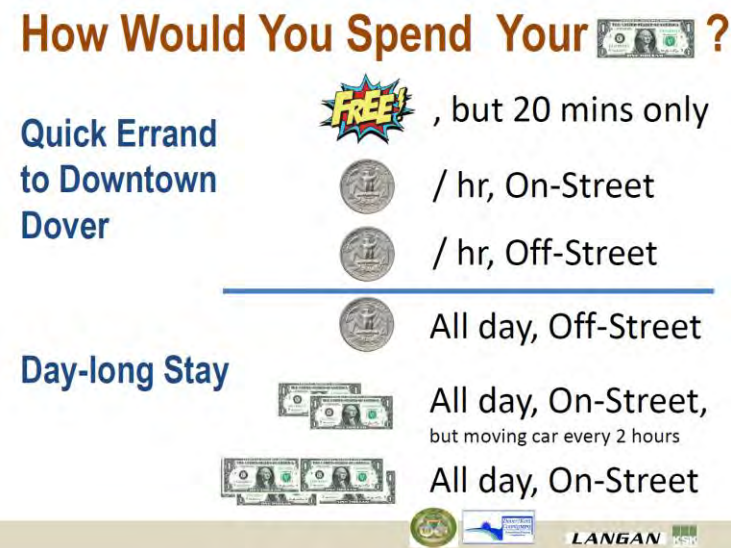


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Figure 18: Board Introducing Potential Scale of Project Costs at Third Public Meeting

The boards also introduced information about how much parking costs in 10 peer cities to Dover. We asked those attending the meeting to match what they thought parking cost in each of the cities, as a fun way to break the ice in relation to the cost of parking in Dover. We presented information on both hourly parking on-street, especially in peer cities of Wilmington and Newark, DE, Annapolis, MD, and Media, PA; as well as on daily off-street parking rates in those same cities.



Figures 19 and 20: Boards about Cost of Parking and Potential Investments Used at Third Public Meeting

Finally, we also presented a schematic wayfinding plan that would help both users get to the right parking lots faster, as well as help brand Downtown Dover as a destination, a cool place to be. The wayfinding strategy would involve three concentric rings of signage:

- Tourist Directional Signs – An outer ring of signs would be installed on DE Route 1, US 13 / DuPont Highway, and Saulsbury Road to direct visitors to Historic Downtown Dover
- Perimeter Welcome Signs – A second ring of signs would be located along the perimeter of downtown, welcoming visitors and thus helping create a better sense of place
- Parking Directional Signs – Finally, an inner ring of parking lot directional signs would be installed to finally end the confusion in wayfinding and specifically direct different types of users to the right locations in the parking lot system.

See Appendix B for all boards used at this public meeting. Chapter 5 provides an analysis of peer city parking rates, parking costs, and recommendations for pricing in Downtown Dover. The final recommended wayfinding strategy, which incorporates comments from the public and stakeholders, is presented in Chapter 6.

A total of over 40 people attended this meeting, of which 33 non-Steering Committee members signed-in to the meeting (see sign-in sheet in Appendix B).

Public Survey

Finally, the project team also made publically available between Public Meetings 2 and 3 an electronic survey to which anyone in the community could respond. The survey was open from August 24 to November 7, 2017 and was promoted at the two public meetings, as well as through flyers and signs posted at City Hall, the Public Library, the DKCMPO, and other local and state agency offices. In addition to private responses from the Steering Committee, a total of 8 members of the public responded to the online survey. While this level of response was not significant, we chose to include the information below in this report because it is representative of comments we heard during the public meetings.

The survey included a total of 30 questions, of which the first 5 were just to collect demographic information. Respondents were:

- 5 male and 3 female
- 50 percent were between 50 and 59 years old, 25 percent between 30 and 49, and 25 percent older than 60
- Half were residents of the immediate Dover zip codes, 19901 and 19904; 25 percent were residents of the Camden / Wyoming / Willow Grove zip code 19934, located west of Dover; one respondent was a resident of the Magnolia / White House Landing / Woodside East zip code 1962, located south of Dover; and one respondent was a resident of Wilmington (19802). The overwhelming majority (75 percent) were workers of zip code 19901.

Highlights from these responses reinforced the feedback gathered at the open sessions at the library. Some of the feedback we collected from the survey included:

- A majority of the respondents only came to Downtown Dover once every 2 to 3 months, with two respondents coming downtown once or twice a month, and only one coming downtown once or more a week. Most come in the afternoon and avoid coming at night; and come for only short visits, less than 2 hours.
- The overwhelming reason for these respondents to come downtown was for Breakfast, Lunch, or Dinner; only two respondents also checked shopping or medical appointments as reasons for coming downtown; only one listed work as a reason.
- Most parked at either the City Hall / Library Lot or the Bradford Street Lot; four responders stated they parked at the North St Lot. All other lots were also listed as occasionally used, except for the A Street Lot.
- Most preferred parking at parking lots instead of on-street⁹; those who preferred on-street parking mentioned confusion about parking rates and “hard to find parking” as reasons to avoid the lots.
- In response to the question “Is it easy to find parking?” three respondents said “Yes, most of the time”. However, two said “No, I just can’t figure out where to go to find parking”; while two others had specific comments, as follows:
 - “Permit holders have taken up much of the parking in lots. The parking lot on North Street is dedicated to the EZ Pass staff”
 - “Need handicapped parking. After driving around lots looking for a spot, I gave up.”

⁹ One responder was limited to lots because they are a handicapped user, and need the extra space behind their car to unload their mobile scooter.

- The large majority of respondents had never been ticketed downtown.
- In general, most respondents had only a short walk to their destination. But the large majority (85%) said that wayfinding signage needs improvement.
- Most respondents prefer the limited number currently available of Free 2-Hour spaces, and seem to spend time looking for them, and get frustrated when they can't find open spots.
- In response to the question "Do you feel safe at Dover's municipal parking lots?" half said "Yes, in all lots", a third said "No, never", and one respondent said "Yes, except anything off State Street at night". They also generally said lighting could be improved.
- In relation to parking during special events (such as Dover Days, Oktoberfest, First Fridays), half said parking is always an issue, a third said parking is available most of the time, and one respondent said "It's fair on normal days, I prepare for the walk on other days".
- In relation to other modes (transit, walk, bike, Uber/Lyft, carpool) that respondents might use to get downtown, only two respondents occasionally walk downtown.

It is worth focusing on the responses received to the cost-related questions:

- We asked respondents how much they would be willing to pay for hourly and daily parking downtown. The goal of this question was to gauge the price sensitivity of those users. We had multiple responses available, and respondents could rank their preferences. The highest ranked responses were:
 1. "I only do quick errands, so I would only use FREE 15-minute or 2-Hour parking" – score of 5.17
 2. "I only do quick errands, But I would be willing to pay for more convenient and available 2-Hour parking" – Score of 4.60
 3. "I would be willing to pay \$2 daily for a more convenient on-street spot" – score of 4.20

It was not surprising that free parking was the highest-ranked response, chosen by half as their number one preference. However, it was surprising that the next two responses ranked as high as they did – half of the respondents picked Option 2 as their second highest preference, while a quarter of respondents picked Option 3 as the number one option. This suggests that users are willing to pay more for a better parking experience.

- We also asked respondents how much they were willing to pay for monthly permit parking. Even though no responders were current permit holders, and most only come downtown occasionally, the responses are still valuable to gauge the potential for a revised permit system to attract new users. The highest ranked responses were:
 - "I would be willing to pay more for my own dedicated, marked spot that is ALWAYS available" – score of 4.00
 - "Now that I think about it, I only park downtown at night – I would be willing to get a cheaper permit just for the night hours" – score of 3.83
 - All other responses, including keeping the cost of the monthly permit between \$20 and \$30, increasing it to \$40, increasing it over \$40, and providing a cheaper daytime-only permit, tied for third place with a score of 3.67

There are two items interesting to note from these responses: first, it seems that there is a willingness again shown for users to pay more for better service and for a more varied set of permits; second, no alternative was clearly a winner, but none were clearly dismissed either. In other words, the results from this question, along with the feedback received during the public and stakeholder meetings, suggests that pricing alternatives should definitely be explored. Parking rates are further discussed in the next chapter, Chapter 5.

- We also asked respondents about how much funding they thought the City, the Downtown Dover Partnership and private partners should budget in the next five years to improve parking. The responses were:
 - Between \$50,000 and \$100,000 per year – preferred by 57%
 - Less than \$10,000 per year – preferred by 29%
 - Between \$100,000 and \$500,000 per year – preferred by 14%

Accordingly, it seems that the public feel that a yearly budget in the \$100,000 range does not seem out of the question.

Finally, we also asked respondents about their preferences for best strategies to improve parking in Downtown Dover. We provided both preliminary suggestions they could rank, as well as the opportunity to provide new suggestions. The highest ranked suggestions were:

1. Better signage directing us to the right spots – ranked most important by all respondents to the question, score of 1.00
2. Increase police and cadet safety presence – ranked most important by two-thirds of respondents to the question, score of 1.33
3. Improve lighting – score of 1.67
4. And tied for fourth, all with a score of 1.83:
 - Consolidate small parking lots into big parking lots
 - Ticket people who exceed parking limits more aggressively
 - Improve accessibility and make ADA improvements in parking lots and on streets
 - Improve pedestrian paths and landscape in parking lots to make them nicer
 - Better parking payment options

Ranking lowest were “further improving permit parking process”, “building a multi-level parking garage”, and “provide dedicated parking for state employees”.

The additional suggestions respondents wrote-in included:

- “Why for the love of God, is there NEVER a map printed showing all the types and sites of all the Dover lots and spaces?”
- “If you are trying to bring people downtown, you should not have them pay. It is yet another discouragement to coming downtown.”
- Install a convex mirror on the utility pole on the southeast corner of Governors Avenue and Bank Lane, to increase safety (“Sight is often restricted by buses, ambulances, trucks, etc. cued up at the light).
- “More handicapped parking spots and better signs directing us to these parking spots”

For the full results of the survey, please see Appendix C.

5. Parking Rates Analysis and Comparison with Peer Cities

When looking at the issues with parking downtown, one must try to track down the root causes for the issues, beyond just the immediate symptoms and dysfunction that is experienced by all current users. A key issue that must be examined is the cost of parking – is it too little or too large? The Project Team performed a review of the current parking rate structure in Dover, gathered data about what peer cities do, and, upon analysis, came up with a set of recommendations in relation to parking rates.

Review of Current Dover Parking Rate Structure

Dover currently has the following parking rate structure:

- On-Street Parking – parking is free, with the main commercial stretch of Loockerman Street and some adjoining streets reserved for 2-Hour Parking
- Off-Street Public Parking Lots – surface lots typically have rates of \$0.25 per hour, \$1 per day and \$22 per month. Downtown businesses currently acquire annual parking permits, which are rebid every year. Many of these businesses, however, have included in their leases or other agreements with the City the requirement for a specific number of dedicated permit spots. Accordingly, the City and DDP have less flexibility in managing the permit spots.
- Off-Street Private Parking Lots – no privately-owned parking lots open to the general public are present in the immediate project area. However, multiple accessory private parking lots serve individual businesses. These are very fragmented and generally not well signaled; many of the smaller building accessory lots are not more than paved or gravel-covered backyards of these properties.
- Off-Street Public Garages – there currently are no garages downtown.

Review of Comparable City Parking Rate Structures

The Langan team and DDP have compiled data for 12 cities that are comparable in size, geography, and other characteristics (e.g., economic activities, political structure, being state capitals, etc.) with downtown Dover. These were:

- Regional Cities:
 - College Park, MD
 - Lancaster, PA
 - Media, PA
 - Milford, DE
 - Newark, DE
 - Smyrna, DE
 - West Chester, PA
 - Wilmington, DE
- Capital Cities:
 - Annapolis, MD
 - Concord, NH
 - Harrisburg, PA

- Trenton, NJ

Table 6, below, summarizes the most important data from this compilation – highlighted in yellow are the lowest and second lowest average rates in each category:

	City	Average On-Street Meter Rates	Average Off-Street Rates		
			Hourly Rate	Daily Rate	Monthly Rate
	Dover	Free	25 cents	\$1	\$22
1	College Park, MD	n/a	\$3	\$15	\$65
2	Lancaster, PA	\$1.50	\$2	\$15	\$45 - \$70
3	Media, PA	\$0.50 - \$1	50 cents	n/a (\$1 – SEPTA only)	\$40
4	Milford, DE*	n/a	Free (2-hour limit in some areas)	Free (2-hour limit in some areas)	n/a
5	Newark, DE	\$1.25	\$1	n/a	n/a
6	Smyrna, DE*	n/a	Free	Free	n/a
7	West Chester, PA	\$0.75 per 30 mins	\$1	\$8	\$50
8	Wilmington, DE	\$1	\$2.93	\$11.85	\$157
9	Annapolis, MD	\$2	\$1 - \$5	\$10 - \$20	\$80 - \$225
10	Concord, NH	75 cents	50 cents	\$12	\$360
11	Harrisburg, PA	\$3 CBD, \$1.50 elsewhere	\$4.45	\$25.64	\$165
12	Trenton, NJ	n/a	\$3.50	\$13.63	\$142

Table 6: Parking Rates at Dover and Peer Cities

As can be seen from Table 6, if we exclude Milford and Smyrna (which are much smaller cities), downtown Dover has the lowest rate of all comparable cities in every single category – for both on street and off street parking. For reference, the next lowest rates for each category are:

- On Street Rate – 50 cents in Media PA versus free for Dover
- Off-Street Hourly Rate – 50 cents in Concord NH versus 25 cents for Dover
- Off-Street Daily Rate – \$8 in West Chester PA versus \$1 for Dover
- Off-Street Monthly Rate – \$40 in Media PA versus \$22 for Dover

Analysis of Contributing Factors to Parking Rate Issues

When reviewing the existing parking rates in Dover, recommendations cannot be made without also looking at several factors that work in concert with the rate structure to create the current unsatisfactory state of the parking infrastructure system. One of these factors is the time restriction on parking downtown, and the other is the state of leased parking spots. These factors are further discussed below.

Parking Time Restrictions

In addition to the rates, it must be noted that most on-street parking in downtown Dover is restricted to 2-Hour Parking, Monday through Fridays from 8 am to 5 pm. The intent of this regulation is to encourage better use of available parking supply and thus, by rotating vehicles more often, make more spots available for business district customers.

However, the practical effect of this regulation is that it has created two grave unintended consequences:

- First, it has encouraged “parking surfing”, where state employees and others leave work every two hours to relocate their cars from one on-street parking spot to another, instead of using longer-term off-street lots. Beyond the inherent work and economic inefficiencies this is creating for employers, this practice in effect also makes many fewer spaces available for potential downtown business customers.
- Second, the two-hour time limit and the threat of overstaying the limit pushes away customers who might want to stay longer downtown¹⁰. In other words, instead of going on a longer errand to multiple destinations downtown, visitors are limited to single trips with single purposes, thus negating the advantages of having so many businesses and destinations downtown.

Leased Parking Spot Restrictions

Downtown office businesses (such as EZ Pass) currently acquire annual parking permits, which are rebid every year. Many of these businesses, however, have included in their leases or other agreements with the City the requirement for a specific number of dedicated permit spots, and many times at specific parking lots.

It is understandable that these lease incentives might have been required to attract these businesses to downtown in the first place. However, today the leased parking is taking up the most premium and convenient spaces in the parking lots closest to the downtown businesses. In addition, many times these permitted spots sit empty, since they were allocated to handle a full load of employees. In practice, based on the counts conducted, between 15 and 40% of permitted spots might sit empty even at peak hours of usage – but unavailable for any other use due to the permit restrictions – on any given day.

In effect, these leased spaces create a barrier around downtown businesses – a first-time visitor or even a frequent visitor will give up on a return trip downtown, if they cannot find convenient parking and instead have to drive all the way to the farthest public parking lot or drive around for a significant amount of time looking for an on-street parking spot. At a minimum, leased parking is resulting in the City and DDP having less flexibility in managing their existing parking supply.

A final note in relation to permit spots: In the past few months, we have heard that EZ Pass will be expanding in 2019; and that additional businesses might soon be requesting even more permit parking spots. If the number of spots restricted to permitted parking increases, it will only exacerbate the existing dysfunctional allocation of parking.

¹⁰ E.g., a visitor could go to an errand to pay a bill at City Hall, have lunch, go shopping, and go to a medical appointment, all in one trip.

Alternatives Analysis for Downtown Dover Parking Rate Structure

Parking should be managed so that there is both an adequate supply of parking downtown; as well as the perception that there is adequate supply and that parking is actually attractive to those who visit, and not a barrier. As a recent article from famed parking planner Donald Shoup notes “Underpriced and overcrowded curb parking creates problems for everyone except a few lucky drivers who find a cheap space; all the other drivers who cruise to find an open space waste time and fuel, congest traffic, and pollute the air. Nearby merchants lose potential customers, workers lose jobs, and cities lose tax revenue.”

Here we will discuss how the rate structure in Dover can be modified to address the actual supply of parking; and how changing the rate structure might also have a significant positive impact in improving the perception and attractiveness of parking downtown.

This study proposes a medium- and long-term integrated strategy that incorporates changes in rates, time limits, and geography to adjust the parking availability in downtown Dover. The strategy consists of three main steps, as follows:

1. **Install parking meters (preferably single pay station meters)** along the main 2 to 4 blocks of Loockerman Street that see the most demand. This measure would be the critical first step to implement a parking strategy that reflects the true costs and true demand for parking in Dover. By placing a cost on the heaviest demand area, then users will adjust and some of the distortions in the current parking patterns will be mitigated.

Some stakeholders might have an initial negative reaction to this measure, saying “But we WANT people to come to our main commercial strip. It makes no sense to make them pay for it!” What they don’t understand is that they are currently providing free parking not to their customers, but to all of those who could – and should – park elsewhere, such as their employees and the parking surfers previously mentioned. It is only by putting a price on this most precious asset that we can start changing the behavior of those who currently park on Loockerman but who should probably be parking elsewhere.

Pros: Finally places in place a pricing strategy that reflects the true cost of parking; would probably have the most impact of any measure.

Cons: An initial investment is required to research, design, and install the parking station infrastructure.

2. **Consider Modifying or Eliminating Time Limits** for all metered parking within downtown, including on-street spots and off-street lots. Currently, even though the 2-hour limit is supposed to incentivize parking rotation and parking availability for a greater number of visitors, it is doing the opposite – incentivizing instead parking surfing and visitors to avoid downtown. There are two different ways to handle this distortion:

Option 2A – Enforcement – One solution would be to keep the existing 2-Hour limits downtown, and just rely on the parking meters installed in Step 1 and on a more balanced pricing structure (see Step 3, below), all backed up by a much more aggressive enforcement approach. In other words, meters and pricing would bring something closer to the true cost of parking to the users of these prime parking spots. Parking surfers would then opt to park elsewhere, and only short-term parkers or those with more meaningful business to conduct downtown would be willing to park on these spots. Of course, this approach would only work if a much more focused enforcement strategy were put in place, to discourage old behaviors from recurring.

Pros: Maintains the status quo of time limits, might be easier for stakeholders and users to comprehend and support.

Cons: Requires significantly enhanced enforcement – resources might not be in place to support this; old parking behaviors might recur; does not create an incentive for new visitors to come downtown.

Option 2B – Eliminate the Two-Hour Limit – We heard from many stakeholders that they want more customers to park on Loockerman and go to the stores along the commercial strip. Since permit parking creates the barrier around this downtown commercial strip and private parking options are limited, visitors who would want to spend longer stretches of time downtown have no options. However, eliminating the two-hour limit would both simplify the existing parking rate structure, and also finally create an incentive for visitors to spend more time downtown.

By giving visitors the flexibility they need – park 15 minutes or park all day – , then metered parking can again help downtown Dover welcome visitors, instead of confusing or sending them away. Those who wanted to spend the day could thus combine multiple types of activities – shop, go to a doctor, pay bills, and dine – while not worrying that their meter might be expiring within 2 hours.

Pros: Creates larger incentive for longer visitor trips downtown, might be easier to manage, requires relatively less enforcement effort.

Cons: Might be slightly more complex to explain to stakeholders; if parking spots are not properly priced, this option would not be as effective in eliminating parking surfing and employee parking.

Note: If this option is selected, two-hour parking limits should be maintained at the edge of downtown, especially on residential streets where local residents need some level of protection from encroachment of commercial downtown traffic. Since these spots are not the prime commercial main street or public employee destinations, they are less likely to receive parking surfers when the policy is changed. (Nonetheless, they should be monitored during the implementation phase, just in case).

- 3. Institute Demand-Based Pricing** – The final step related to parking rates is implementing a reasonable demand-based pricing strategy. A typical such strategy includes an analysis of existing parking geographical and timing patterns, and the implementation of a sliding scale of pricing for parking spots. For example, the locations that have greater demand would be priced higher, and those that have lower demand would be priced lower – thus better distributing parking demand across all locations.

The industry standard for optimal parking utilization is typically seen as 85% occupancy for on-street parking and 90% for off-street parking. Existing parking occupancy data from our Dover study suggests that there are some clear on-street and off-street parking locations that receive significant demand and some that clearly receive very little demand.

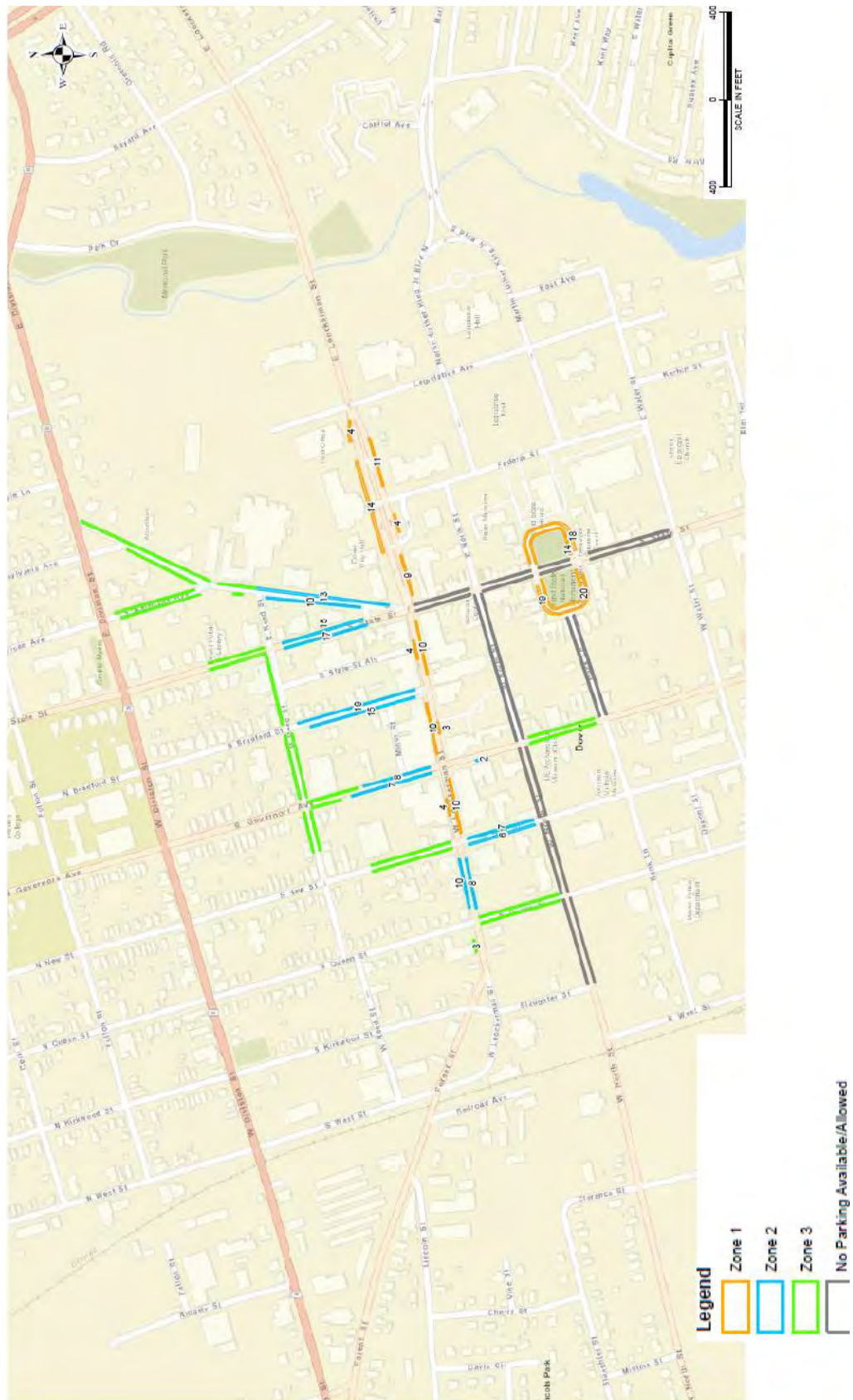


Figure 21: Potential Zones for On-Street Demand-Based Pricing

Looking at these areas of demand, one possible demand-based pricing structure for **daily on-street parking** would be as follows:

- a. **Zone 1 – High Demand “Core Zone”** – Loockerman Street from Legislative Avenue to Governor’s Avenue – \$2 (twice the current off-street cost), Unlimited hours
- b. **Zone 2 – Medium Demand Zone** – adjoining blocks to Loockerman, one block north and one block south from Loockerman – \$1 (equal to current off-street cost) , Unlimited hours
- c. **Zone 3 – Low Demand Zone** – continues to be free – Unlimited hours for non-residential areas; for residential areas there would be a 2-Hour limit for non-residents
- d. **Off-Street Public Parking Spots** – maintained at \$1 – But now Unlimited hours (no 2-hour parking spots offered)¹¹

The reason for the significant increase in the High Demand area is obvious: again, the intent would be to discourage parking surfers and employees from parking at those locations. Instead, these prime spots should be reserved for the key visitors that want to do a quick errand, or for those visitors with more meaningful business to conduct downtown and who would be willing to pay this rate.

Also, note that the rate of the Medium-Demand On-Street Zone and the Off-Street Parking Lots, which are adjacent, would thus reasonably be the same.

In addition, we would recommend that a demand-based pricing structure also be instituted for **permit parking**. Parking spots closest to downtown destinations (North St lot, Loockerman lot) would thus be priced higher; and those farthest (e.g., Governor’s Ave lot) would be priced lower. In addition, premiums could be charged for providing reserved spaces; and discounts given for permits that were requested for only a weekday space or only a weekend space. Here is a potential adjusted demand based pricing structure for **off-street permit parking lots**:

- a. **High Demand – Parking Zone A** – North St lot and Loockerman St lot
 - **Permit A Reserved** (numbered parking spaces) – \$50 / month (approximately double current rate)
 - **Permit A Regular** (pooled parking spaces) – \$40 / month (less than double current rate)
 - **Permit A Weekday only** (pooled) – \$22 / month (equal to current rate)
 - **Permit A Weekend or Overnight only** (pooled) – \$11 / month (half of current rate)
- b. **Medium Demand Zone – Parking Zone B** – Bradford Street lot and Minor Street lot
 - **Permit A Reserved** (numbered parking spaces) – \$40 / month (less than double current rate)
 - **Permit A Regular** (pooled parking spaces) – \$30 / month (approximately a third higher than current rate)
 - **Permit A Weekday only** (pooled) – \$22 / month (equal to current rate)
 - **Permit A Weekend or Overnight only** (pooled) – \$8 / month (less than half of current rate)
- c. **Low Demand Zone – Parking Zone C** – Governor’s Avenue lot
 - **Permit A Reserved** (numbered parking spaces) – \$30 / month (less than double current rate)
 - **Permit A Regular** (pooled parking spaces) – \$22 / month (equal to current rate)

¹¹ We recommend that this pricing strategy be also extended to the City Hall / Library lot, for consistency across the downtown parking area.

- **Permit A Weekday only** (pooled) – \$11 / month (half of current rate)
- **Permit A Weekend or Overnight only** (pooled) – \$5 / month (less than a third of current rate)

We can make several observations in relation to this proposed permit rate structure:

- The current \$22 monthly rate would be maintained for those customers who are price-sensitive and who would not want any additional increase in rates. These would be available on weekday rates in Parking Zones A and B; and on regular rates for Parking Zone C. This can potentially reduce the amount of complaints over an increase in rates.
- The rate changes can be implemented for those spots guaranteed in lease agreements, where guaranteed permit costs were not included in the lease agreement language.
- This is just a proposal. It can be modified before implementation of the pilot; and can be adjusted later, based on changes in demand and user feedback

Pros: Demand-based pricing is the ultimate measure to reduce distortions in parking patterns. Provision of pooled, weekday and weekend-only permits significantly increases the capacity of the existing number of parking spots.

Cons: Permit demand-based pricing will require negotiations and coordination with existing permit-holders.

Finally, we also prepared a model of current and future costs, pricing, revenues, and profits/loss for downtown Dover's parking system. The model was based on the "Parking Costs, Pricing and Revenue Calculator" developed by the Victoria Transport Policy Institute and was updated with inputs that reflect Dover's current conditions.

Making assumptions about current costs in Dover, the model calculated that the city today probably has a monthly cost on the order of \$8.33 per on-street parking spot and \$41.67 per surface parking lot spot. Based on these costs, the model calculated a breakeven monthly revenue of \$20 dollars per on-street parking spot and \$73 per surface parking lot. Based on the current numbers of parking spots that are publically managed (607 on-street and 459 off-street, as previously described), the total net revenue for on-street parking is expected to be on the order of \$73,000, while the costs of maintaining surface parking probably means that the City might be losing over \$137,000. In other words, the expected total result of downtown Dover's current system is deficitary, with an expected total loss of approximately \$65,000 per year.

We also modeled what would happen with revenues under our proposed parking fee adjustments, as well as with the construction of a parking garage downtown. Under the first scenario, just implementing our parking fee recommendations and assuming that occupancies remained high, we could expect a turnaround into an annual profit of over \$100,000. Under the second scenario, however, the construction of a parking garage would place additional debt and maintenance load on the system, and could generate annual deficits approaching \$500,000 a year.

See Appendix D for the complete results of the model.

In summary, the overall pricing rate strategy we recommend provides for a pricing- and demand-based strategy for managing parking in downtown Dover. It provides for a streamlined set of parking rates for visitors to downtown (\$2 for on-street and still 25 cents for off-street lots); while providing a restructured set of fees for permit parking that starts to fully value the location of each spot provided. Using these strategies, parking demand will be better distributed, and the right users will park at the right spots at the right costs. Finally, we would expect this pricing strategy to help the City and DDP not only better manage the existing parking supply, but also help build up a capital reserve for future system enhancements.

6. Recommendations

In summary, the Downtown Dover Parking Study arrived at the following conclusions:

- Overall there is sufficient supply in the study area to accommodate existing demand, however the demand is unbalanced and thus some localized parts of the study area are at or over capacity while some of the more remote regions within the study area are well under capacity.
- Some parkers may feel that there are parking supply constraints because remote parking areas are not well-defined, parking regulations might be confusing, and wayfinding is not provided for such areas; or because some parkers may be hesitant to park in more distant off-site lots, especially ones that might require a longer walk in low-pedestrian volume areas perceived as being “unsafe”.

So, the study did identify some issues with parking, but not necessarily a lack of parking. The main factors are really related to how parking is managed, and how it can be better managed. The foremost complaint was that just the basic action of finding parking was tough. Some of the reasons might include on-street parking occupied by parking surfers and employees; lack of clear directions to a parking lot or to the sought-after type of parking (including ADA spaces for those with disabilities); the reservation of preferred spaces for permit parking; and the confusing, multiple categories of parking. All these issues are related to the cost that is charged – or not charged – for different types of parking. There is also a perception of lack of safety, especially at night and at lots farther from active pedestrian traffic. And finally, many expressed how it would be extremely helpful to have a concerted effort to better create a sense that Downtown Dover is special, that it is a place well worth a visit.

Based on these findings, recommendations were developed. Most of them fall into several distinct categories, including “Wayfinding”, “Pricing”, “Streetscape and Lighting Enhancements”. Instead of listing them by these categories, we separated them into Short-Term (“low hanging fruit” measures that can be implemented in less than one year); Medium-Term (those that can be implemented between one and three years); and Long-Term (those that require long-term effort, and would only start to be implemented after three years).

The five most critical recommendations, which reflect the findings of our study and stakeholder and public input, were:

- Short-term – Recommendation 1 – Wayfinding, install Parking Directional Signage
- Short-term – Recommendation 3 – Pricing Strategy, pilot the first phase of a new pricing strategy, focused on permit parking
- Medium-term – Recommendation 8 – Metered Parking, install new parking meters or metered kiosks on Loockerman Street, to be able to completely implement the new pricing strategy
- Medium-term – Recommendation 9 – Pricing Strategy, pilot the second phase of a new pricing strategy, focused on on-street parking
- Medium-term – Recommendation 10 – Streetscape and lighting enhancements to increase the safety, ease of navigation and attractiveness of Downtown Dover

Recommendations are described in further detail below.

Short-Term Recommendations

These recommendations can be considered “low-hanging fruit”, measures that can be taken within one year of the completion of this study:

1. **Wayfinding – Parking Directional Signage** – to address one major complaint, the first phase of the Wayfinding Plan should be implemented immediately, installing new signs at key intersections to

direct visitors to the two commercial strip parking lots currently available – the Bradford Street lot and the Governor’s Avenue lot –, as well as to the City Hall / Library lot for those who have city business to address. We suggest that a total of 20 to 30 signs are required to provide directions from all the main access routes to downtown, which include:

- Division Street, Forrest Street and W North Street from the west
- Governor’s Avenue and State Street from the north and south
- Division Street, Kings Highway, Loockerman Street, Water Street and MLK Boulevard from the east
- Loockerman Street, Governor’s Avenue, Bradford Street, Reed Street within the immediate adjacency of the parking lots



Figure 22: Potential Parking Directional Signs

2. **Wayfinding – Private Parking Lot Signage** – another easy measure to implement is to ask key private parking lot owners to post signs saying “Free Evening Parking” or “Free public parking after 6 pm”. This would make it clear to evening visitors that those spaces are available.
3. **Pilot First Phase of New Pricing Strategy** – because any modifications to the on-street parking rates will require additional stakeholder coordination and procurement of new parking meters, we suggest that the new pricing strategy be first piloted with implementation of Demand-Based Pricing for parking permit spaces. As mentioned in Chapter 5, higher prices would be charged for permits on the North and Loockerman Way lots, while the lowest prices would be charged on the Governor’s Avenue lot. In addition, Weekday Only and Weeknight Only permits could also be implemented.
4. **Pilot Parking Lot Reconfiguration** – Once the parking permits are reissued under the new pricing scheme, then we recommend that the Bradford Street and Governor’s Avenue lots be reconfigured with paint, so that metered spots are concentrated on the east side of the lots, and permit spots on the west side of the lots. Additional internal lot signage would direct users to the appropriate metered, permit and ADA spots.
5. **Disincentive Campaign** – in parallel with these strategies, the City and DDP could send letters and hold meeting with shop owners and state employees, to educate employees and “parking surfers”

about the damage they do the system, and to discourage them from doing the same in the future. The police department should also increase the level of enforcement after the outreach to these groups is completed.

6. **Incentive Campaign** – in addition to the Disincentive Campaign, which has a focus on negating or minimizing current bad parking behavior, a more positive campaign can be put in place to encourage more people to walk over to downtown Dover’s businesses. One key finding from talking to business owners is that they would like to see more pedestrian traffic from state employees, visitors to state offices, and students from Wesley College. Some of the potential ways to encourage these potential visitors and customers to come downtown include:
 - Hosting Downtown Dover business outreach fairs, showcasing downtown businesses and products, right in front of (or even inside) state office buildings and Wesley College. The goal would be to introduce all these potential customers to these businesses and let them know that they are only a short walk away.
 - Hold “Walking Parties”, where a volunteer “Walking Ambassador” schedules walks or jogs at lunchtime or at the end of the day, so that potential customers from state offices or students can exercise, make new friends, go to their parking spaces, and – most importantly – go to local businesses.
 - Expand current downtown marketing efforts to include ads and slogan to “Walk Downtown”

Medium-Term Recommendations

These recommendations can be implemented within one to three years of the completion of this study:

7. **Wayfinding – Downtown Dover Destination and Welcoming Signage** – the second phase of the Wayfinding Plan can be implemented within this timeframe. The next two layers of signage would then be installed – first the enhanced directional signage located on perimeter major access roads (DE Route 1, US 13 / DuPont Highway, and Saulsbury Road) to direct visitors to Historic Downtown Dover; and then the Perimeter Welcome Signs – a second ring of signs would be located along the perimeter of downtown, welcoming visitors and thus helping create a better sense of place. To meet this schedule, coordination between the City and DeIDOT should begin soon.

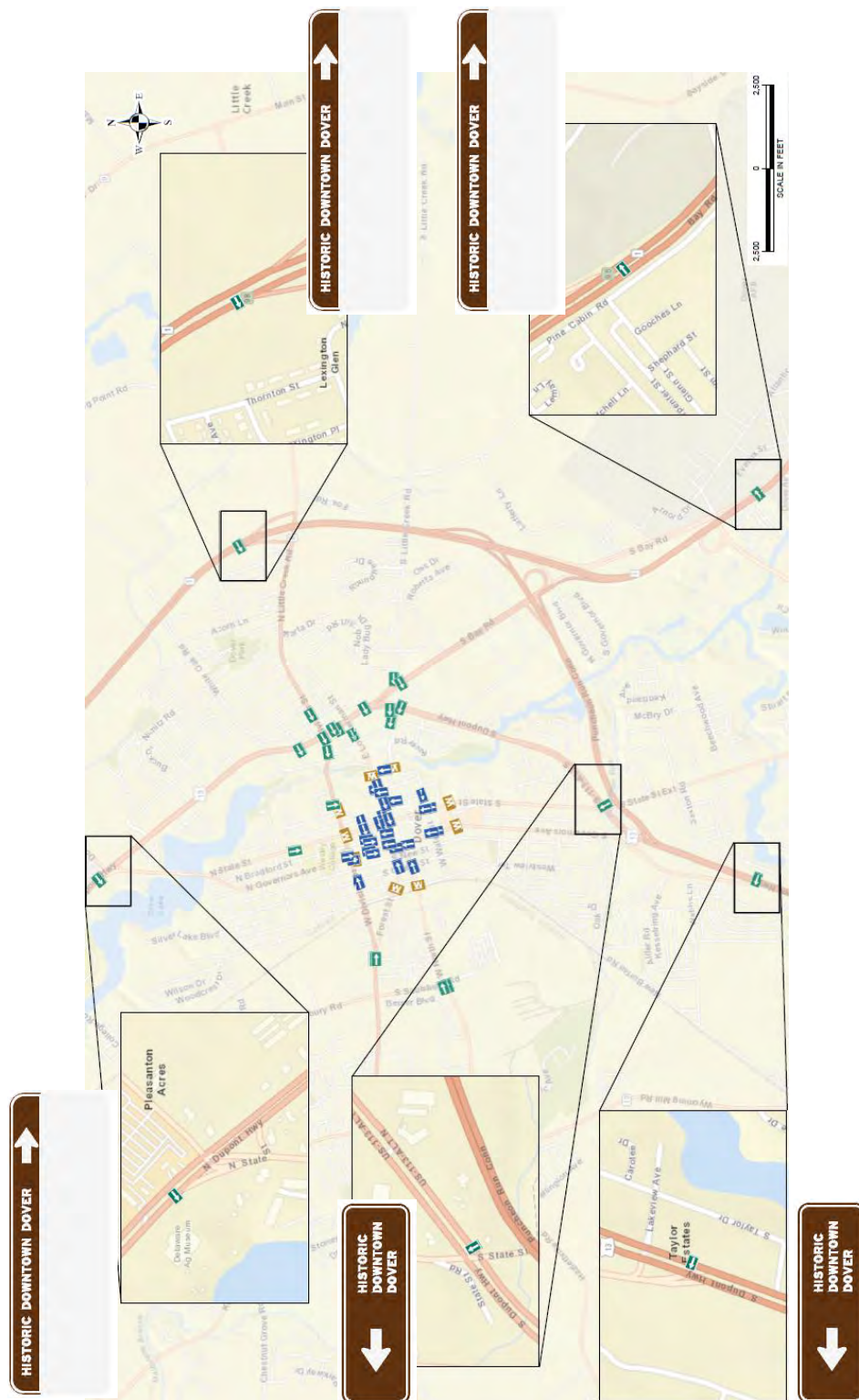


Figure 23: Potential Wayfinding Strategy (see Legend below)

Green rectangles with arrows – outer perimeter directional signage
(see mockups with standard highway brown background above)

Orange rectangles with “W” – proposed locations of Welcome signs

Blue rectangles with arrows – proposed location of inner perimeter parking lot directional signage

8. **Metered Parking** – to fully implement the new pricing strategy, new meters or meter kiosks will need to be installed along Loockerman Street. We prepared an order-of-magnitude estimate of the probable costs of installing meters or metered kiosks (see Table 7, below), and arrived at an estimated cost ranging from \$14,000 to \$60,000.

	Unit Cost	# Meters	# Block faces	TOTAL
Meters	\$350	41		\$14,350
Metered Kiosk	\$5,000 - \$10,000		6	\$30,000 - \$60,000

Table 7: Estimated Costs for Installing Meters on Loockerman Street (Three blocks, north and south sides)

As shown on the table, the cost to install multi-space meters would depend on the number of spaces assigned to a pay machine. The cost per pay machine ranges from \$5,000 to \$10,000 depending on the vendor and number of units purchased. In comparison, the cost to install a new single space meter is approximately \$350 each. Additional costs for multi-space meters could include set up for debit card distribution locations and credit card processing fees. Furthermore, for wireless communications, a monthly service fee is typically collected through the vendor.

Multi-space meters offer a single pay station for all parking along a curb, or within parking garages and off-street surface lots. On-street they typically replace up to ten single space meters along a block. Off-street, they can manage all spaces within sight, although more than one machine is provided, if necessary, for user convenience during peak periods. This technology allows for multiple payment options, including coins, bills, credit cards, and debit cards. Pre-paid tokens (to replace vouchers) are also available for local businesses. The multi-space meters offer options to either pay by space number (typical in lots/garages), or pay and display (typical for curb parking).

Pros:

- Multiple payment options (Many drivers like the convenience of paying by credit card)
- Reduces or eliminates the need for customers to carry or obtain coins
- Reduces the amount of coins to be collected
- Potential reduction in staffing because of fewer coins and locations to collect
- Less obstructed streetscape with elimination of meters replaced by one multi-space pay station.
- Improved accounting and revenue tracking
- Automated notifications by broken meters to request repairs
- No revenue loss due to broken meter (If meter is broken, drivers can use any other nearby meter to pay)

Cons:

- Less convenient location for the parking customer
- Capital cost of new multi-space meters significantly higher than single-space meters

- Cost of removing/disposal of existing single space meters
- Potential for delays in receipt of credit card revenues due to processing and transferring
- If enabled for acceptance of debit cards there would be a need for multiple locations to sell, load and reload debit cards (because of the small scale of the proposed system, even including the existing multi-space meters in the existing lots, a debit card system is probably not economically feasible)
- Drivers may not be familiar with technology, learning curve should be expected
- Potential for customer to not observe the presence of the multi-space meter location and the need to pay for parked time

If metered parking is approved for implementation, fundraising and coordination should also begin soon.

9. **Pilot Second Phase of New Pricing Strategy** – after the new parking meters or kiosks are installed, then the pricing strategy can be extended to on-street parking (refer to Chapter 5 for details). Prior to the start of the new pricing, the City and DDP should conduct an educational campaign to educate the public about the new pricing strategy, why it makes sense, and how it will help enhance parking downtown for the long-term.
10. **Streetscape and Lighting Improvements** – one of the most frequent complaints heard during the study was that of safety and the heightened sense of awareness one had to have even during a short walk to a parking lot after work. One of the easiest ways to address this issue is to use urban design strategies and technology to enhance both safety and the perception of safety of those using the on-street and off-street parking facilities in Downtown Dover. Several of these strategies include, in incremental order of complexity and cost:
 - Maintain sidewalks and public infrastructure in a good state of repair
 - Continue to activate shopping corridors with the existing and new banner programs
 - Prune trees that might be blocking existing lighting fixtures, so that more lighting reaches sidewalks and thus provides safer pathways to destinations
 - Replace existing streetlamps and lighting fixtures with LED lights and more modern fixtures, that provide better lighting
 - Provide additional landscaping along sidewalks
 - Install additional safety cameras to provide police with live additional data
 - Continue to provide incentives for storefront revitalization and to bring additional businesses downtown – the more businesses and the more visitors downtown gets, the greater the chance of creating a virtuous circle of redevelopment that thus also provides more eyes on the street and more safety
 - Create additional pedestrian bumpouts to shorten pedestrian crosswalk crossing distances, and thus create a safer environment for pedestrians
 - Modify the parking layouts and rebuild the Bradford Street and Governor’s Avenue lots, to match or exceed the higher quality urban design of the North Street lot

Finally, during the study the Project Team also developed the concept for a specific streetscape project, the “**Parking Connector Alley**”, which would greatly enhance the safety, convenience, and attractiveness of using the off-street public parking lots. The project would basically entail building a continuous pedestrian pathway in existing public or parking lot right-of-way, connecting the New Street and the Governor’s Avenue lot on the west, thru the Bradford Street and minor Streets parking lots

and Minor Street, across State Street and Kings Highway, all the way to the City Hall / Library lot on the east.

This new pathway would have a high-quality aesthetic, possibly with brick pavers to match the historic character of Downtown Dover; would have excellent lighting, to address the complaints of dark alleys (especially surrounding Minor Street and the State Street Alley); and would also provide space for “pocket parks”, small gathering spaces that could be green, could provide areas to just sit and relax, or could even provide spaces for small performances or events.

Ultimately, if this alley is built, it would create the kind of street connector that the North Street lot or Loockerman Way today provide, and would most probably increase the attractiveness of the Bradford Street and Governor’s Avenue lots, thus helping the entire off-street system reach more balanced and fuller occupancy rates. Figure 24, on the next page, shows a plan rendering of what this alley could look like.



Figure 24: Potential New Parking Connector Alley

As a follow-up to this parking study, the Project Team recommends that the City, DKCMPO, and partners start a process of identifying and prioritizing potential streetscape and lighting improvements that can be implemented to enhance the parking experience in Downtown Dover, including the low-hanging fruit measures of changing lights to LEDs and potentially the construction of the New Parking Connector Alley.

11. **Promote Alternative Transportation Options** – as Downtown Dover continues to prepare for future development, it is important to consider the many ways in which overall demand for parking can be reduced. Dover already does this in several ways, such as making the city more walkable and pedestrian friendly. The city could consider increasing those efforts, including promoting the following alternative transportation options:

- Integrating centralized lots with shuttle services, as was expressed by stakeholders especially with connections to Wesley College, Bayhealth's Kent General Hospital, and the Dover Transit Center
- Providing abundant bicycle parking facilities to promote the use of bicycles for local transportation.
- Expanding the emergent bicycle lane network and connecting it with existing regional trails
- Assisting businesses to provide bicycle parking and amenities (lockers and showers)
- Creating parking cash out programs - incentives to those who don't drive
- Providing free or discounted transit passes (TransitChek)
- Providing priority parking for carpools or vanpools and ride-matching services for carpool or vanpool partners
- Attracting car sharing programs (e.g. Zipcar, Enterprise Car Share) and bike-sharing programs
- Creating guaranteed ride home services

12. **(Optional) Implement Pay by Cell Phone System** – to make parking more convenient, several municipalities or counties around Dover have started experimenting with pay-by-mobile-phone systems for on-street parking, including Bethany Beach, Montgomery County, MD, and Harrisburg, PA. From a customer's perspective, this technology makes parking more convenient by:

- Eliminating the need to carry coins, cash, or even take a credit card out of your wallet
- On some systems, allowing you to charge your phone bill for the parking
- Providing the opportunity to extend your parking session from your cell phone, without physically returning to your car (and thus also potentially also avoiding a traffic ticket)
- On some systems, providing information about where available parking is

From the provider's perspective, this technology offers the opportunity for:

- Getting accurate data on peak times and popular parking zones, thus allowing them to better manage available parking resources
- Reducing costs, including on some systems by eliminating meters, maintenance needs, cash collection efforts, and accounting

- Reducing parking surfing if there are time limits for parking spots
- Reducing enforcement, legal challenges and complaints, since parking data is actively collected

The City could consider the implementation of a Pay by Cell system in addition to the new meters or kiosks; or possibly even as an alternative system, bypassing the need for installing new meters or kiosks.

Long-Term Recommendations

Finally, the following recommendations will require long-term focus and effort for implementation, and can be implemented three years or more after the completion of this study:

13. **New Gateways to Downtown Dover** – once the downtown parking changes and the new streetscapes and lighting as well as the initial branding efforts are completed, then Downtown Dover should consider creating new gateways at the major intersections that provide access to downtown. These gateways would consist of green landscaped public spaces, with sculptural elements to denote the special character of downtown Dover, and thus serve as additional mileposts and attractions for visitors to go downtown. See Figure 25 on the next page, for an overall aerial view of potential gateway locations and character.



Figure 25: Potential Gateway Locations

As can be seen in Figure 25, we suggest that new gateways should be created at the intersections of US 13 / DuPont Highway with both MLK Boulevard and Division Street. In addition, the existing gateway at the intersection of Division Street and Kings Highway would also be enhanced. These two intersection improvement projects are described in more detail below.

- US 13 / DuPont Highway with Martin Luther King Jr Boulevard and Bay Road

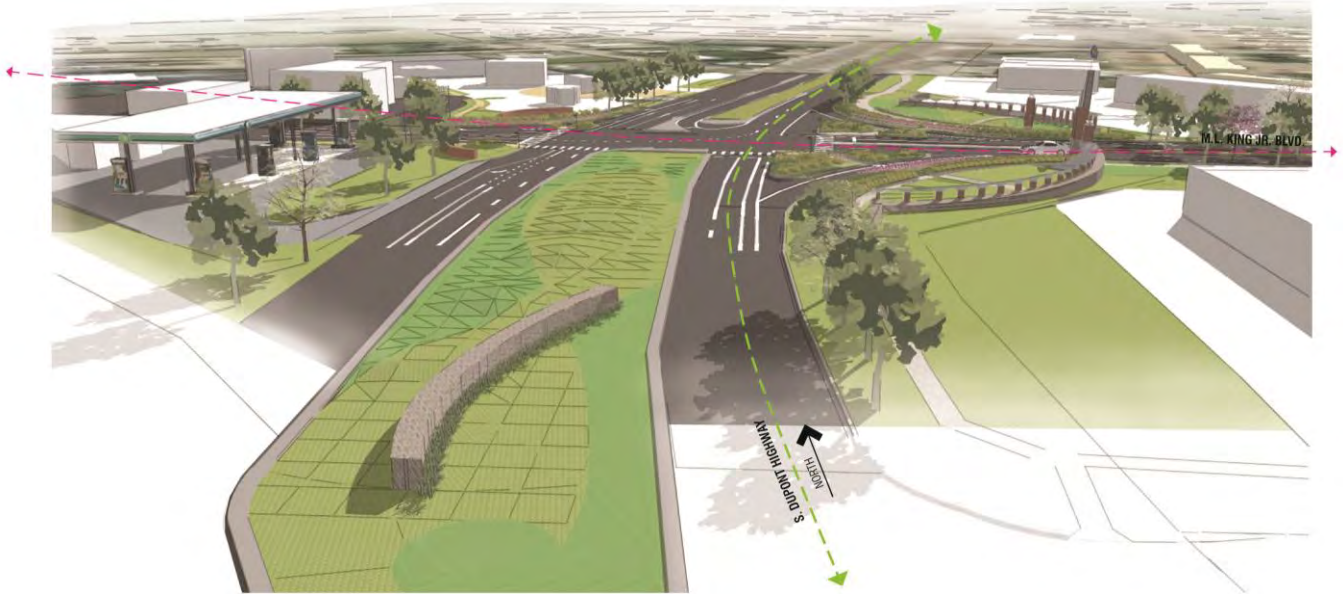


Figure 26: Potential Gateway 1 Location at Intersection of US 13 / DuPont Highway and MLK Boulevard, view looking south (MLK Boulevard to the right)

As can be seen on Figure 26, our schematic rendering for a new gateway at this intersection includes:

- Installation of landscaping and trees to differentiate the gateway from the standard highway-side or commercial landscape
- Installation of sculptural elements – the renderings shows a trellis-like concrete structure in the highway median and in a semi-circle at the entrance to MLK Boulevard. Even though these are only conceptual in nature, structures like these would serve both as symbolic elements denoting this location as a gateway, and also as visual elements directing passers-y towards downtown
- Enhancement of sidewalks and pedestrian crossings
- Installation of additional directional and visitor-support signage
- Potential installation of specialized lighting



Figure 27: Potential Gateway 1 Location at Intersection of US 13 / DuPont Highway and MLK Boulevard, view looking northwest

Figure 27 portrays how the enhanced landscaping really makes a difference in how residents, workers and visitors would perceive downtown. While conceptual in nature, several elements of this rendering can be discussed:

- The trellis serves both to provide visual cues to drivers that there is a special place just beyond DuPont Highway, and to provide a higher quality background for those using the sidewalks, shielding them from traffic, parking lots, and visual pollution
- The enhanced plantings at the edge of the roadways help make the point that this is a special place, the seat of government for the state of Delaware and a clean, safe, and exciting place to be
- The sculptural columns at the entrance of MLK Boulevard are visible from wide distances, once more marking this spot as someplace special and serving as the gateway markers for the entrance to downtown.



Figure 28: Potential Gateway 1 Location at Intersection of US 13 / DuPont Highway and MLK Boulevard, view looking east

As can be seen on Figure 28, the intersections improvements also include signage that help enhance wayfinding and streamline traffic exiting downtown, especially so during large scale events.

- US 13 / DuPont Highway with Division Street – as can be seen in Figure 29, below, our schematic rendering for a new gateway at this intersection includes:
 - Installation of special pavements for pedestrian crossings, as well as special pavement or thermoplastic paint effects within the intersection
 - Construction of two gateway walls on the west (downtown) side of the intersection, with potential “Welcome to Downtown Dover” signage
 - Installation of landscaping and trees to differentiate the gateway from the standard highway-side landscape



Figure 29: Potential Gateway 2 Location at Intersection of US 13 / DuPont Highway and Division Street, birds-eye view

Figure 30, on the next page, shows how this gateway might look like from the ground level.

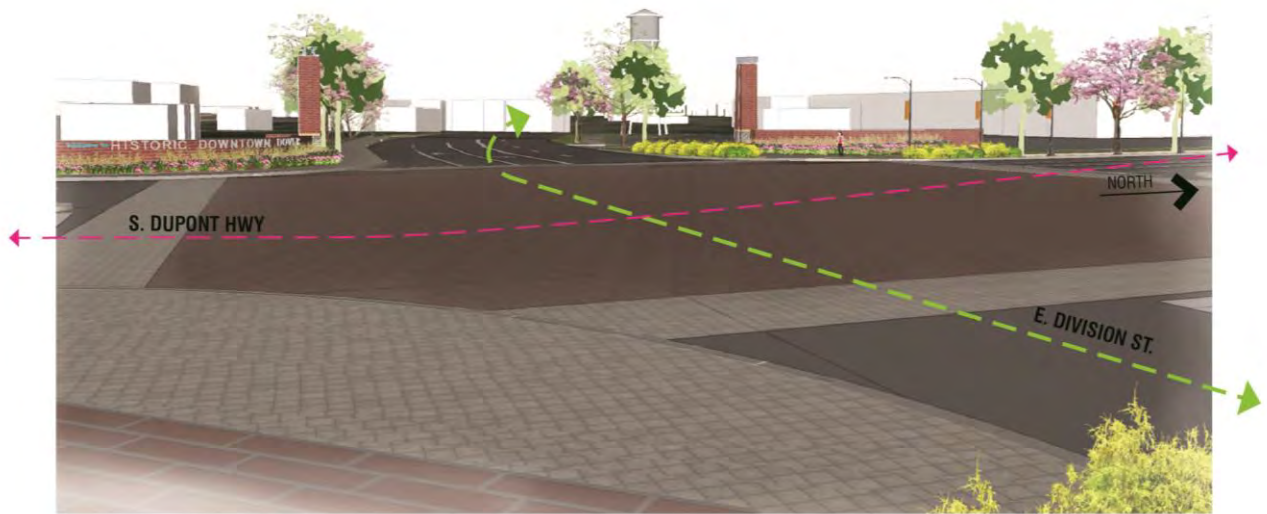


Figure 30: Potential Gateway 2 Location at Intersection of US 13 / DuPont Highway and Division Street, ground level view

In addition, we also recommend that the existing gateway at Division Street / Kings Highway be enhanced. The rendering in Figures 31 and 32, below and on the next page shows how minor streetscape and landscaping enhancements can make a difference in making the existing triangular public area feel more like a gateway.



Figure 31: Potential enhanced Gateway Layout at Intersection of Kings Highway and Division Street



Figure 32: Potential enhanced Gateway Layout at Intersection of Kings Highway and Division Street, ground level view

14. **Long-Term Visitor Promotion Program** – in follow-up of the short-term Incentive and Disincentive Campaigns and the short- and medium-term installation of all the new wayfinding signage, we recommend that a long-term visitor promotion program be put in place. The City and the Downtown Dover Partnership should coordinate with the Kent County Tourism Corporation (dba Delaware’s Quint Villages) to expand its already significant marketing efforts, and slightly adjust some of its marketing efforts to help new visitors “Discover Historic Downtown Dover”. In addition, the statewide Delaware Tourism Office can also revise its Visit Delaware – Endless Discovery campaign and website to include a lot more (and easier to find) information about local Dover attractions and businesses. Finally, even direct outreach / marketing efforts to neighboring metropolitan centers such as Wilmington, Annapolis, Baltimore, Philadelphia and Washington DC should be considered. With a unified and integrated wayfinding and marketing campaign, then downtown can expect to see many more visitors and help spur further redevelopment.



Figure 33: Potential Layout for Welcome Sign for Downtown Dover

15. **New State Street Alley Parking Lot** – as was discussed as part of Scenario 2 during the stakeholder and public outreach process, a new parking lot can be built by combining existing private parking areas along State Street Alley, between Lookerman Street and Reed Street. Such a project would require significant outreach and coordination with property owners, as well as fundraising to reconfigure the individual lots into one integrated, coherent lot. However, if such work was undertaken, between 40 and 50 new parking spots could be made available to downtown merchants and their customers.
16. **New Parking Garage (once development reaches critical mass)** – during the early stakeholder and public outreach process, a frequent question heard was “So, when do we build a garage?” Developing

a parking garage is an expensive proposition, and can be especially problematic in a small downtown environment like Dover where many small users (and overflow from state parking facilities) contribute to a cumulatively growing parking demand. In Chapter 3, we described the peak occupancy model we developed to check on the current parking supply and demand balance downtown. It showed that current raw demand currently does not exceed 85%, and when time of day and types of use are considered, the demand likely does not exceed 60%. In other words, as stated several times before, there is sufficient supply downtown – but it is not currently well managed.

Future Development Scenarios

Based on the current demand model, we also ran three scenarios to check on what would happen with future development. The first scenario examined what would happen to the peak occupancy rate if downtown saw a significant increase in residential development, with approximately 3 times the currently existing supply – and no new parking supply was provided (not even the minimum required by the zoning code). The second scenario examined the first scenario, but with the provision of new parking supply according to code. And the third scenario builds on the second by adding a further 100,000 square feet of office space. See Table 7 below for the results of the analysis.

Land Use	Number of Parking Spots Required			
	Original Demand Model	Scenario 1 – Residential Growth, no new parking	Scenario 2 – Residential Growth, new parking according to zoning	Scenario 3 – Residential and Office Growth, new parking according to zoning
Commercial	414	414	414	414
Office/Industrial	823	823	823	1,107
Residential	260	688	688	688
TOTAL	1,498	1,925	1,925	2,209
Existing Supply	1,762	1,762	2,082	2,415
Calculated Raw Peak Occupancy	85%	109%	92%	91%
Calculated Time of Day / Parking Type Peak Occupancy	60%	79%	67%	58%

Table 7: Peak Occupancy Model – Total Parking Required Under Different Scenarios

Under Scenario 1, it can be seen that the raw peak occupancy exceeds the supply at 109%. However, this scenario was purposefully designed to gauge how much the parking system could absorb if no new parking supply was built. When we then examine the peak occupancy considering time of day and types of parking, it would not even exceed 79% for this scenario, leaving plenty of available supply under most conditions. Scenarios 2 and 3 just show that under the current zoning conditions, even if significant levels of development occur, the raw occupancy demand would not exceed the supply, and the time-of-day adjusted rates show that sufficient parking would be available.

If we look closely at Scenario 3, it represents the addition of another major office business to downtown Dover (larger even than the current largest one, EZ Pass). Should such a potential addition to downtown

pop up, that is when the City and DDP should consider a partnership to develop a new large parking lot or garage.

In other words, growth scenarios show that if current zoning requirements are respected (and zoning exceptions avoided), downtown Dover is unlikely to lack parking supply in the near future. If the current parking supply is better managed, then it should be sufficient to address low- and even moderate-growth scenarios. (For full demand models, please see Appendix D).

Implementation: Phasing Strategy, Funding Sources

As was seen above, quicker and cheaper strategies for implementation were listed in the Short-Term List of Recommendations, then we listed Medium-Term recommendations, and those that will require more time and budget, or completion of previous recommendations, were listed in the Long-Term List. This breakdown offers the City and DDP a menu of options that can be implemented within a year, within one to three years, and on a three to ten year horizon.

In this era of scarcity of resources, we suggest that between one and three strategies be picked from each of the Short, Medium, and Long Term Lists so that the City and DDP can dedicate staff and funding for more successful implementation. Within this list we recommend one critical sequence of recommendations should be implemented – the five most critical recommendations, which reflect the findings of our study and the stakeholder and public input:

- Short-term – Recommendation 1 – Wayfinding, install Parking Directional Signage
- Short-term – Recommendation 3 – Pricing Strategy, pilot the first phase of a new pricing strategy, focused on permit parking
- Medium-term – Recommendation 8 – Metered Parking, install new parking meters or metered kiosks on Loockerman Street, to be able to completely implement the new pricing strategy
- Medium-term – Recommendation 9 – Pricing Strategy, pilot the second phase of a new pricing strategy, focused on on-street parking
- Medium-term – Recommendation 10 – Streetscape and lighting enhancements to increase the safety, ease of navigation and attractiveness of Downtown Dover

Recommendations 1, 3, 8, and 9 form a coherent base sequence of actions that can transform the performance of the parking system downtown; recommendation 10 is then critical to alter both the experience of using the parking system, as well as the perception of lack of safety and inconvenience.

The following funding sources are available to help Dover implement this program:

- DelDOT – Community Transportation Funding (CTF) – up to \$275,000 available to legislators and as match for other programs
- DelDOT – Transportation Alternatives Set-Aside Program – up to \$1 million in design and construction funds, 20% match required
- USDOT TIGER – between \$5 million and \$25 million, minimum 20% match, for multi-modal transportation projects that will have significant impact to a metropolitan area or region, including:
 - Repair bridges or bring infrastructure to a state of good repair
 - Safety improvements, including shorter or more direct access to critical health services

- Connect people to jobs, services, and education
- Anchor economic revitalization and job growth, especially in manufacturing
- DE Division of Small Business, Development and Tourism – Neighborhood Building Blocks Fund – up to \$50,000, 25% match required
- DE portion of federal HUD Community Development Block Grant
- And specifically for green elements of the project, such as streetscape enhancements and the creation of pocket parks along the New Parking Connector Alley and on the city gateways:
 - DNREC – Outdoor Recreation, Parks & Trail Program – typically up to \$100,000 per municipality, 50% match required
 - DuPont Clear Into the Future program
 - Longwood Foundation

To assist the City and DDP in the process of prioritizing and selecting the preferred recommendations for implementation, the project team prepared a summary matrix with potential costs/resources needed for implementation, benefits, and potential milestones and obstacles for each recommendation. In addition, we also list the preferred funding sources for each. The matrix can be seen in Table 8, below.

Table 8: Summary of Expected Costs, Benefits, Obstacles and Funding Strategy for Each Recommendation

Recommendation	Expected Cost/Resources Needed for Implementation	Expected Benefits	Milestones / Obstacles	Potential Funding Sources
SHORT-TERM				
1. WAYFINDING – Install parking directional signage	Less than \$50,000	Reduce driver / visitor confusion	i. Secure grant or city funding ii. Coordinate with agencies iii. Design signage iv. Manufacture and install signage	DelDOT CTF / City funds
2. WAYFINDING – Install private parking lot signage	Less than \$10,000 / Collaboration with private lot owners	Reduce driver / visitor confusion; and provide additional parking options	i. Secure small funding commitments ii. Coordinate with agencies iii. Design signage iv. Manufacture and install signage	City funds and private contributions
3. PRICING – Pilot first Phase	Can probably be done internally	Will start implementation of a demand-based pricing system; might provide additional revenue, and provide additional spaces for hourly/daily visitors	i. Coordinate and receive board approval for pilot pricing strategy ii. Communicate and receive feedback from existing permit holders iii. Implement strategy during	Not required

Recommendation	Expected Cost/Resources Needed for Implementation	Expected Benefits	Milestones / Obstacles	Potential Funding Sources
			next permit renewal phase (Fall 2018?) iv. Monitor results post-issuance of permits, and for a year afterwards	
4. PHYSICAL – TRANSFORMATIONS Parking Lot Reconfiguration	Can probably be done internally; or with small assistance from consultants.	Reduce driver / visitor confusion	i. Design new parking lot layouts ii. Paint new striping and replace signage where needed	Not required or small city budget
5. ENGAGEMENT – Disincentive / Enforcement Campaign	Can probably be done internally	Reduce driver / visitor confusion; reduce gaming of parking system (reduce “parking surfing”); and thus provide additional spaces for hourly/daily visitors	i. Prepare goals of campaign and draft presentation ii. Pilot presentation at two events and update presentation iii. Coordinate with police on increased enforcement iv. Monitor results	Not required or small city budget
6. ENGAGEMENT – Incentive Campaign	Can probably be done internally	Increase number of visitors downtown	i. Prepare goals of campaign and prepare presentations and events ii. Host promotional events iii. Increase marketing effort	Small city budget
MEDIUM-TERM				
7. WAYFINDING – Install Destination and Welcoming Signage	Less than \$100,000	Reduce driver / visitor confusion; increase awareness of downtown Dover as an everyday destination	i. Secure grant or city funding ii. Coordinate with agencies iii. Design signage iv. Manufacture and install signage	DeIDOT CTF / City funds / DE Division of Small Business, Development & Tourism
8. PRICING – Install Metered Parking	\$15,000 - \$60,000	Reduce driver / visitor confusion; next step in implementation of a demand-based pricing system; might provide additional revenue, and provide additional spaces for hourly/daily visitors	i. Secure grant or city funding ii. Coordinate with agencies iii. Design and procure system iv. Install meters / kiosks	DeIDOT CTF / City funds

Recommendation	Expected Cost/Resources Needed for Implementation	Expected Benefits	Milestones / Obstacles	Potential Funding Sources
9. PRICING – Pilot Second Phase	Less than \$50,000 / Beyond cost of Recommendation 8, might require support from a consultant.	Will continue implementation of a demand-based pricing system; might provide additional revenue, and provide additional spaces for hourly/daily visitors	<ul style="list-style-type: none"> i. Coordinate and receive board approval for second phase of pricing strategy ii. Communicate and receive feedback from existing permit holders iii. Implement strategy during next permit renewal phase (Fall 2018?) iv. Monitor results post-issuance of permits, and for a year afterwards 	DeIDOT CTF / City funds / DeIDOT TA Set-Aside
10. PHYSICAL – TRANSFORMATIONS - Streetscape and Lighting Improvements	Depending on scale of effort, between \$50,000 and possibly over \$1 million if significant new lighting , safety cameras, new landscaping, and new Parking Connector Alley are built	Continues physical transformation and redevelopment of downtown, further encouraging higher-value occupancy of vacant spaces; reducing perceptions and levels of unsafety; and bringing additional residents and visitors alike.	<ul style="list-style-type: none"> i. Secure grant or other funding ii. Coordinate with agencies iii. Design and procure improvements iv. Build improvements 	DeIDOT CTF / City funds / DeIDOT TA Set-Aside / DE Division of Small Business, Development & Tourism
11. ENGAGEMENT – Promote Alternative Transportation	Can probably be done internally	Decrease demand for driving and parking downtown, thus alleviating parking issues; Increase number of visitors downtown	<ul style="list-style-type: none"> i. Prepare goals of campaign and prepare presentations and events ii. Host promotional events iii. Increase marketing effort 	Small city budget
12. PRICING – Pay by Cell Phone System	\$ To be Determined / Would require collaboration with technology provider	Increase level of performance and convenience of parking downtown	TBD	DeIDOT CTF / City funds / DeIDOT TA Set-Aside / DE Division of Small Business, Development & Tourism
LONG-TERM				
13. PHYSICAL – TRANSFORMATIONS New Gateways	Depending on scale of effort, between \$500,000 and	Creates new perception of downtown as a destination, bringing	<ul style="list-style-type: none"> i. Secure grant or other funding ii. Coordinate with agencies 	DeIDOT CTF / City funds / DeIDOT TA Set-Aside / DE Division of Small

Recommendation	Expected Cost/Resources Needed for Implementation	Expected Benefits	Milestones / Obstacles	Potential Funding Sources
	over \$1 million	additional residents and visitors alike.	iii. Design and procure improvements iv. Build improvements	Business, Development & Tourism
14. ENGAGEMENT – Long-Term Visitor Promotion Program	Can probably be led internally	Decrease demand for driving and parking downtown, thus alleviating parking issues; Increase number of visitors downtown	i. Prepare goals of campaign and prepare presentations and events ii. Host promotional events iii. Increase marketing effort	Small city budget, plus DE Division of Small Business, Development & Tourism
15. PHYSICAL – TRANSFORMATIONS – New State Street Alley Lot	TBD, between \$250,000 and \$1 million	Continues physical transformation and redevelopment of downtown, further encouraging higher-value occupancy of vacant spaces; reducing perceptions and levels of unsafety; and bringing additional residents and visitors alike.	i. Secure grant or other funding ii. Coordinate with agencies iii. Design and procure improvements iv. Build improvements	DeIDOT CTF / City funds / DeIDOT TA Set-Aside / DE Division of Small Business, Development & Tourism
16. PHYSICAL – TRANSFORMATIONS – New Parking Garage	Over \$4 million / Collaboration with private developer	Continues redevelopment of downtown, leverages private investment; and brings additional residents and visitors.	i. Secure development agreement ii. Coordinate with agencies iii. Design and bid iv. Build improvements	Private Funds / City funds / DE Division of Small Business, Development & Tourism

Here are the major upcoming grant deadlines that the City and DDP should consider:

- DE Division of Small Business, Development and Tourism – Neighborhood Building Blocks Fund – Grant application deadline, Dec 20, 2017
- Longwood Foundation – Registration for information session – recommended before December 31, 2017
- Longwood Foundation – Pre-Application Homework due to foundation – February 6, 2018
- Longwood Foundation – Grant information session in Dover (Delaware State University) – February 12, 2018

- DNREC – Outdoor Recreation, Parks & Trail Program – typically invitation letter sent in March, pre-applications due in May, and applications due in September
- DelDOT – Transportation Alternatives Set-Aside Program – probably Spring 2018 grant deadline
- USDOT TIGER – possibly October 2018
- USDOT INFRA – possibly November 2018
- DE Division of Small Business, Development and Tourism – Neighborhood Building Blocks Fund – Grant application deadline, Dec 2018

Supportive Strategies

In addition to the recommendations listed above, there are several additional strategies that the City, DKMPO, and DDP can together take in follow-up, to help mitigate the factors that make that parking experience downtown such a burden. They include:

- Coordination with State parking facilities – in addition to reaching out to state employees to encourage them to visit downtown more often, the city can also reach out to public facility executives to coordinate collaborative measures to share city and state parking facilities.
- Coordination with Wesley College – similarly, even though at a smaller scale, the City can coordinate with the college on collaborative measures to manage parking in the perimeter of downtown.
- Shared Parking Program – even if the City opts not to pursue the construction of the new State Street Alley parking lot, the City can build on its initial outreach to private parking lot owners (see Recommendation 2) and broker additional shared parking agreements – not only along the alley, but also at other potential shared-use private parking lots.
- Friendlier Enforcement – as the City implements new parking pricing arrangements, the City could train the Police’s Safety Ambassadors or create a new group of volunteer “parking ambassadors” to reach out to parking meter and lot users, and serve as front line of friendly outreach to educate and assist the public during the ramp-up of the new pricing strategies.
- Event / Valet Parking system – even though generally not considered a significant issue by stakeholders and the public, if need be, the City could create such a system to accommodate the additional parking demand derived from special events (Dover Days, NASCAR races) or busy legislative / judicial sessions.
- Parking Consultant – if the workload for implementation and management of parking issues becomes too big, the City could seek out a parking consultant to manage the implementation program and to provide ongoing monitoring of the system.

7. Conclusion

The City of Dover and the Downtown Dover Partnership are well on their way to making Dover a vital destination, a great place to be, work, live, and play. However, one of the most frequent complaints heard from visitors, customers, and residents is the issue of parking, which acts as a deterrent to more frequent visits and further revitalization. As one year studying the issue showed, the overall peak occupancy of on-street parking did not exceed 75%; and of the off-street parking lots did not exceed 63%. When adjusted for time of day and type of use, the overall system occupancy never exceeded 60%, when the typical targets for efficient use without overcrowding are typically are 85% occupancy for on-street parking and 90% for off-street parking.

The issue is really two-fold: an inefficient distribution of parking capacity, where some lots and preferred on-street spots might see over 80% occupancy, and others linger below 40%; and confusing wayfinding and parking rate systems, which contribute to create a large disincentive for parking downtown.

The project team developed a series of recommendations, with the input and feedback from multiple stakeholders and the public. These set of recommendations basically fall into these categories:

- Better wayfinding and signage
- Revised parking rate structure
- Improved physical infrastructure, including streetscape, landscape, lighting, security cameras, new pocket parks and connecting walkways, and new gateways to downtown
- Enhanced public engagement and marketing of Historic Downtown Dover as a destination

This report provides a menu of choices for implementation of these recommendations, and lists potential funding sources and actions to implement them. We believe that as the City and DDP move into implementation, every small win will help transform the parking experience and the visitor enjoyment of downtown, helping build momentum for further enhancements. Along the way, downtown will again be the vital public space that connects all the residential, employment, government, educational, recreational, and historic areas of the city.