FINAL REPORT

WILMINGTON DOWNTOWN CIRCULATION STUDY

PREPARED FOR

Wilmington Initiatives

DelDOT

DART

WILMAPCO

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DECEMBER 2011

If you plan cities for cars and traffic,
you get cars and traffic.

If you plan for people and places,
you get people and places.

The Project for Public Spaces

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EXHIBITS

The preparation of this document was financed in part with funds provided by the Federal Government, including the Federal Transit Administration and the Federal Highway Administration of the United States Department of Transportation.

EXECUTIVE SUMMARY

Introduction

In summer 2008, Wilmington Initiatives began the Wilmington Downtown Circulation Study (WDCS), an update to the original circulation study prepared in 1997. The purpose of the WDCS is to evaluate all modes of transportation in downtown Wilmington, provide recommendations for improvements to accommodate future transportation demand, and identify transportation's role in shaping downtown. Downtown transportation policy continues to evolve by focusing more on how streets can successfully help a variety of users, like pedestrians, transit, personal vehicles, delivery vehicles, and bicyclists, circulate downtown; vehicle level of service (LOS) is no longer the only way to evaluate circulation. This more comprehensive way of looking at streets informed the WDCS, where its recommendations strive to find the right balance between urban quality of life and the efficient movement of people and goods, which is critical for economic success.

The study team assessed the downtown Wilmington transportation system, both through technical analysis and a visioning process, and also collected traffic, crash, existing street configuration, sidewalk condition, and transit operation data. More than 20 past studies were reviewed. In keeping with Wilmington Initiatives' tradition of ensuring transportation improvements reflect the values and wishes of the communities they serve, an extensive public involvement process was undertaken, utilizing a large Advisory Committee, conducting an extensive "listening tour," and holding three public workshops. Over 300 comments were received and grouped into seven "common themes," which gave the study team guidance in the identification of specific transportation goals. Comments generally focused on improving the downtown pedestrian experience, making transit more convenient, and ensuring that transportation investments contribute to a more economically vibrant downtown.

The seven common themes include:

1. Promote a vibrant, healthy Downtown, with a mix of 24-hour uses, through transportation improvements.
2. Ensure that Downtown streets balance all modes of travel (walking, bicycling, transit, and driving) and include buildings and streetscape that enhance street life.
3. Provide convenient, frequent transit service throughout the City, especially to the train station.
4. Reclaim Rodney Square as Downtown's premier public space.
5. Make Downtown more walkable.
6. Improve the existing street system for all modes of travel by timing traffic signals, evaluating street direction changes, and managing on-street parking and loading.
7. Match parking supply with demand.

The study team evaluated the connectivity, safety, and operations of the existing downtown transportation network. The traffic analysis indicated that downtown Wilmington functions exceedingly well for motor vehicle traffic, with only about 10% of signalized intersections experiencing unacceptable levels of peak hour congestion. Most downtown intersections function at Level of Service (LOS) A or B during peak hours, indicating potential opportunities to reassign travel lane space for other purposes such as parking, landscaping, walking, or bicycling. Because demographics forecast a modest reduction in traffic in downtown Wilmington over the next 20 years, the existing traffic volumes were used in lieu of future volumes. Using the results of the public outreach process and the technical analysis, the study team established future transportation needs in relation to the goals and objectives established for the study.

Improvements were evaluated in three areas: transit improvements, street improvements at specific locations, and parking improvements.

Recommendations

Below is a chart summarizing the recommendations developed during the study, along with what pages the recommendation is further discussed in the report.

Exhibit 1: Chart of WDCS Recommendations.

Transit Improvements Recommendations	**Chapter 4**
A. Short-Term: Operational Improvements	Page 16
B. Long-Term: Transit Center Analysis	Page19
Street Improvements Recommendations	**Chapter 5**
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H. Two-Way King Street (1500 Block)	Page 40
I. Permit left turns from WB Delaware Avenue to SB Washington Street	Page 41
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K. Delaware Avenue Post Office Area On-Street Parking & Streetscape	Page 42
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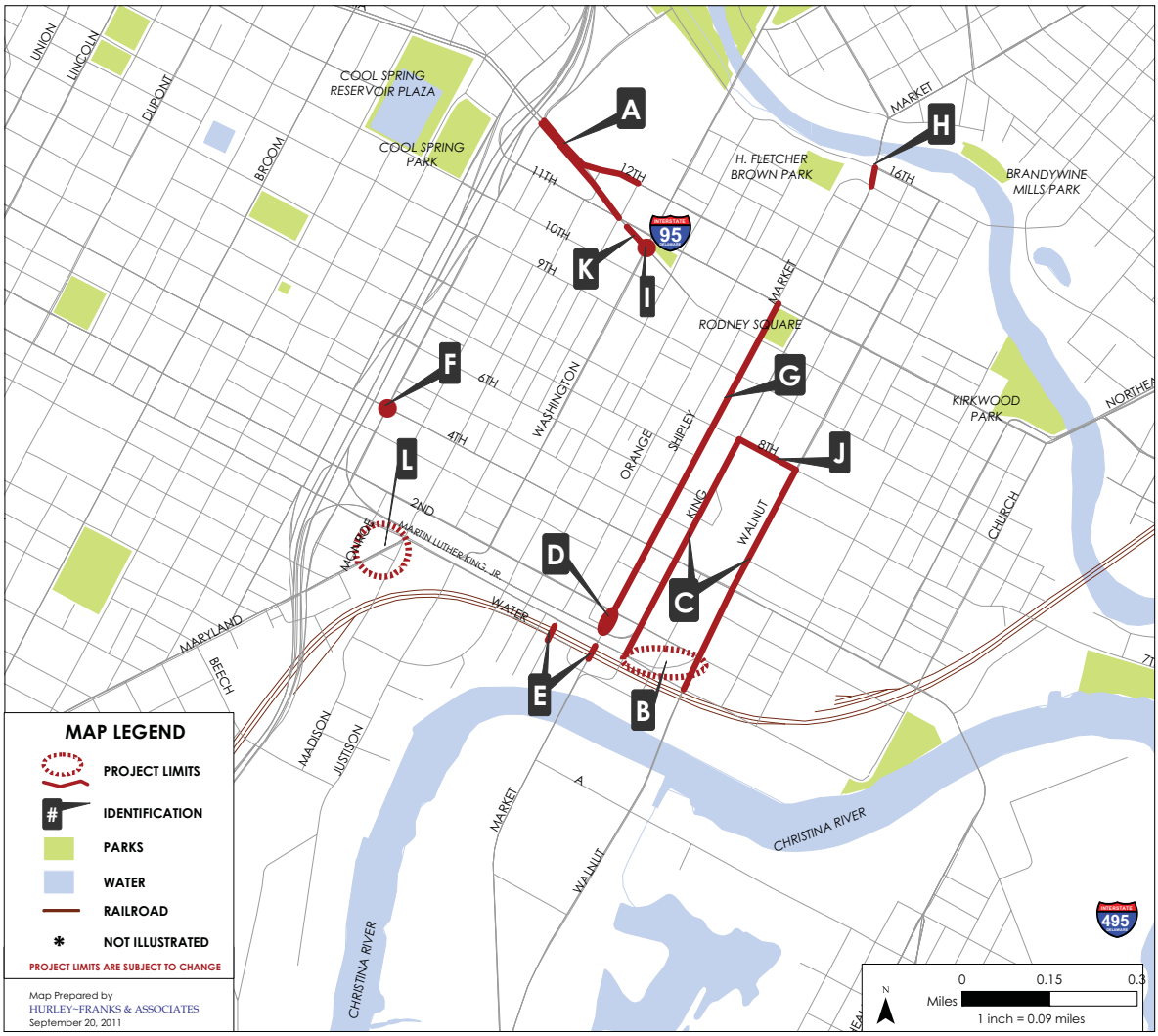
Exhibit 2: Map of WDCS Street Improvement Recommendations.

WDCS Street Improvement Recommendations



A. Delaware Avenue / 11th Street / 12th Street Curve Study

B. Walnut Street Sweep Removal

C. King & Walnut Streets Analysis

D. Southbound Capacity and Bicyclist Improvements for N. Market Street

E. Amtrak Viaducts Improvements

F. W. 4th & N. Adams Streets Intersection and Streetscape Improvements

G. Market Street On-Street Bike Route

H. Two-Way King Street

I. Permitted left turns from WB Delaware Avenue to SB Washington Street

J. Two-Way 8th Street

K. Delaware Avenue Post Office Area On-Street Parking & Streetscape Improvements

L. Safety & Capacity Improvements for 5 Point Intersection (Maryland, S. Madison & MLK Jr. Blvd.)

1. INTRODUCTION

Background

As national transportation policy began its transition towards a more collaborative planning process, the City of Wilmington embarked on an Environmental Enhancement Plan in 1996 to develop streetscape concepts for downtown corridors. One of the most critical outcomes of this Plan was the implementation of a framework to facilitate a more efficient manner in which to proceed with the funding, planning, design, and construction of transportation improvements in the City. This in turn led to a strong collaboration between the City of Wilmington, Delaware Department of Transportation (DelDOT), Delaware Authority for Regional Transit (DART), and Wilmington Area Planning Commission (WILMAPCO). This partnership, given the name Wilmington Initiatives, remains active to this day and has resulted in the investment of tens of millions of dollars in projects.

One of the key early products of Wilmington Initiatives was the 1997 Downtown Circulation Study. This study recommended a series of multimodal improvements to meet the goals of the Wilmington Initiatives Partners. Some of the study's recommendations, such as the remaking of Martin Luther King, Jr. Boulevard into more of an urban street, were implemented. However, as with any study of this magnitude, a number of recommendations from the 1997 study were not implemented and require re-evaluation.

Since the previous study was completed, downtown Wilmington has enjoyed continued commercial and residential growth. Mixed-use redevelopment on the Riverfront and high-density residential growth south of the Christina River have further contributed to downtown's success. In 2008, Wilmington Initiatives moved forward with re-examining the findings of the 1997 Downtown Circulation Study and reassessing the state of transportation in downtown Wilmington.

Purpose of the Study

In summer 2008, Wilmington Initiatives initiated the current Wilmington Downtown Circulation Study (WDCS). The purpose of this study is to evaluate all modes of transportation in downtown Wilmington, provide recommendations for improvements to accommodate future transportation demand, and identify transportation's role in shaping downtown. WILMAPCO, the lead agency for the study, hired a study team led by the Wilmington engineering and planning consulting firm of Whitman, Requardt & Associates, LLP to conduct the effort. The study team also included BBP & Associates, LLC to assess joint development opportunities and Mundle & Associates, Inc. to analyze transit operations.

Acknowledging the importance of Wilmington's recent Riverfront development, the study area was expanded from the 1997 document to include not only downtown Wilmington (generally bounded by I-95, Walnut Street, the Brandywine Creek, and the Christina River), but also the Riverfront on the west side of the Christina River. Downtown transportation policy, nationwide and in Delaware, continues to evolve by focusing more on how streets can successfully help a variety of users, like pedestrians, transit, vehicles, and bicyclists, circulate downtown. The WDCS is informed by this holistic approach to street design in order to strike a balance between urban quality of life and the efficient movement of people and goods, which is critical to Wilmington's success.

Exhibit 3: Study area map.

2. ASSESSMENT

Data Collection and Analysis

The study team began the WDCS by documenting and inventorying existing physical conditions throughout the study area through field observations and document review. The following data elements were documented:

- Turning movement counts at 80 of the 115 signalized intersections in the study area (raw data available from WILMAPCO)
- Lane widths
- Parking facilities
- Bicycle facilities
- Turn lanes
- Traffic signals/timing/coordination
- Bus stops
- Driveways
- Sidewalks and curb ramps (dimensions, conditions, ADA compliance)
- Transit ridership data from the DART First State / Delaware Transit Corporation (DTC)
- Crash data from WILMAPCO and DelDOT

From a transit perspective, the study team developed a detailed picture of existing DART First State bus operations in downtown Wilmington. Through several meetings with DART operations staff, the team gathered quantitative information and learned more about the key issues encountered by drivers or reported by passengers. The study team also evaluated bus routing, frequency/headways, and storage requirements at stops.

Vision, Goals and Objectives

The visioning process is one of the most vital steps in the development of a major planning document like the WDCS. Occurring concurrently with the data collection and analysis, this visioning process not only helps solidify the purpose of the study, but also refines the type of issues the WDCS will address.

To ensure the WDCS is built on the efforts and vision of prior Wilmington Initiatives, the study team reviewed relevant documents. The recommendations, strategies, and vision statements from those 23 documents, listed in Appendix H, provided a foundation to build and refine the vision of the WDCS.

For many years, Wilmington Initiatives has been committed to transportation improvements that reflect the values and wishes of the communities they serve. To maintain that focus, the first stage of the WDCS effort was an extensive public involvement process, where stakeholder input was obtained in a variety of ways. The study team developed a questionnaire focusing on a broader vision for downtown Wilmington:

- In what ways is Wilmington a great city and in what ways can it become a great city? What role does transportation play?
- What transportation issues exist in downtown Wilmington today?
- How do you see downtown Wilmington changing over the next 5, 10, 20 years?
- What would you like downtown Wilmington to look like then?
- In what ways can transportation improvements help accomplish that vision?
- Who else should we speak with about the future of downtown Wilmington?

The study team asked these questions to Wilmington Initiatives Partners during the study's kickoff meeting on July 30, 2008. Subsequent to that meeting, Wilmington Initiatives established a study Advisory Committee, which provided input during meetings on October 1 and November 18, 2008. This Advisory Committee consisted of representatives from a number of downtown stakeholders, including civic organizations, residents, businesses, institutions, and government agencies. More information about the Advisory Committee composition and meetings can be found in Appendix D.

To obtain more focused input, the study team embarked on a "listening tour" with key stakeholders. By either participating at Advisory Committee meetings or in a listening tour interview, these agencies and organizations (listed alphabetically) were provided an opportunity to shape the study's vision.

- Bank of America
- City of Wilmington City Council, Public Works and Transportation Committee
- City of Wilmington Departments of Planning, Public Works, Public Safety, Police, Fire, and Law
- City of Wilmington Mayor's Office
- DART First State
- Delaware Center for Horticulture (DCH)
- Delaware Department of Transportation (DelDOT)
- Delaware Historical Society (DHS)
- Downtown Visions
- Greater Wilmington Convention and Visitors Bureau
- ING Direct
- Preservation Initiatives (PI)

- Riverfront Development Corporation (RDC)
- The Buccini/Pollin Group (BPG)
- The Commonwealth Group
- The DuPont Company
- Transportation Management Association of Delaware (TMA Delaware)
- Wilmington Area Planning Commission (WILMAPCO)
- Wilmington Main Street
- Wilmington Parking Authority (WPA)
- Wilmington Renaissance Corporation (WRC)

Over 300 comments were received during the listening tour. The study team grouped recorded comments into seven focus areas known as "common themes." The culmination of the information-gathering process was a public workshop held on December 2, 2008 at the Chase Center on the Riverfront. Through presentations and an open-house format, members of the public had the opportunity to provide open-ended comments and to select which of the common themes best represented their concerns and vision for transportation in downtown Wilmington. Below is a list of the common themes, listed by weighted score, gathered during the December 2008 Public Workshop.

Exhibit 4: Common Themes Chart.

Common Theme	Weighted Score*
1. Promote a vibrant, healthy Downtown, with a mix of 24-hour uses, through transportation improvements.	53
2. Ensure that Downtown streets balance all modes of travel (walking, bicycling, transit, and driving) and include buildings and streetscape that enhance street life.	40
3. Provide convenient, frequent transit service throughout the City, especially to the train station.	37
4. Reclaim Rodney Square as Downtown's premier public space.	35
5. Make Downtown more walkable.	12
6. Improve the existing street system for all modes of travel by timing traffic signals, evaluating street direction changes, and managing on-street parking and loading.	12
7. Match parking supply with demand.	11

* Attendees were asked to identify their first, second, and third priority. Each "first priority" vote was assigned three points, each "second priority" vote two points, and each "third priority" vote one point.

These common themes gave the study team guidance in the identification of specific transportation goals. Most notably, in contrast to the original 1997 Study, there were very few comments regarding downtown traffic congestion (though some stakeholders noted peak hour congestion on I-95 to and from downtown). Instead, comments generally focused on improving the downtown pedestrian experience, making transit more convenient, and ensuring that transportation investments contribute to a more economically vibrant downtown.

3. NEEDS

Existing Conditions

Using the data collected in the first phase of the WDCS, the study team evaluated the connectivity, safety, and operations of the existing downtown transportation network. From an operations standpoint, the study team used VISUM software to estimate existing travel patterns (where trips start and end) based on GIS data, traffic controls, and traffic count data. This model, which incorporated parking garages as traffic generators, was calibrated to predict current peak hour traffic volumes and traffic operations.

Synchro software was used to determine peak hour level of service (LOS) at each signalized intersection. At a traffic signal, LOS measures intersection capacity by the number of seconds of total delay experienced by the average motorist entering the intersection. These are measured during the morning (7 to 9 am) and evening (4 to 6 pm) peak hours. The City's previously existing Synchro model was adapted for the WDCS, with all operational parameters checked to ensure that they reflect 2008 conditions.

This traffic analysis indicates that downtown Wilmington functions exceedingly well for motor vehicle traffic. Of the 115 traffic signals in the study area, all but 12 were found to have LOS better than E. This finding validates the limited number of stakeholder comments received about downtown traffic congestion. In fact, most downtown intersections function at LOS A or B during peak hours, indicating potential opportunities to reassign travel lane space for other purposes such as parking, landscaping, walking, or bicycling.

Additional information about the WDCS methodology and LOS is included in Appendix C of this report.

Exhibit 5: Locations of existing peak hour congestion.

Intersection	LOS	Peak hour(s)
A. 2nd and Walnut Streets	F	AM
B. 4th and Jackson Streets, I-95 southbound off-ramp	F	AM
C. 4th and King Streets	F	PM
D. 4th and Walnut Streets	E	AM
E. 9th and Adams Streets, I-95 northbound off-ramp	F	AM and PM
F. 11th and Adams Streets, I-95 southbound off-ramp	F	AM
G. Delaware Avenue and Washington Street	F	AM
H. Delaware Avenue, 11th, and Jefferson Streets	F	AM
I. Front and Walnut Streets	E	AM
J. Martin Luther King, Jr. Boulevard and Market Street	F	PM
K. Martin Luther King, Jr. Boulevard, Washington Street, and Justison Street	F	PM
L. Martin Luther King, Jr. Boulevard, Maryland Avenue, and Madison Street	F	AM

Exhibit 6: Existing AM peak hour levels of service.

Exhibit 7: Existing PM peak hour levels of service.

Future Conditions Without Improvements

In a typical integrated transportation study, the impacts of anticipated future growth on the transportation system are determined. To accomplish this, WILMAPCO provided year 2030 population and employment forecasts. These forecasts indicated that both population and employment in the study area are expected to decrease slightly through 2030.[1] For this reason, there is expected to be a modest reduction in traffic in downtown Wilmington over the next 20 years.

To model a worst-case scenario from a traffic congestion standpoint, the study team considered a potential future condition with a 10% increase in all traffic volumes throughout the study area. This would provide a conservative approach, should future development in downtown Wilmington be more robust than predicted. At its March 3, 2009 meeting, the Advisory Committee recommended against this approach, suggesting that any potential increases in downtown travel demand could be accommodated through non-auto modes of travel. As a result, Wilmington Initiatives Partners directed the study team to use existing traffic volumes to produce improvement recommendations.

Should a significant change in downtown land use be proposed in the future, the VISUM land use and transportation model developed for this study may be used to assess development impacts on traffic growth.

Summary of Needs

Using the results of the stakeholder outreach and the technical analysis, the study team established future transportation needs in relation to the goals and objectives established for the WDCS. These needs, reviewed with Wilmington Initiatives Partners and the study's Advisory Committee, were categorized as follows:

Martin Luther King, Jr. Boulevard area

- Pedestrian access issues
- Traffic congestion at four intersections
    - Walnut Street
    - Market Street
    - Washington and Justison Streets
    - Maryland Avenue and Madison Street
- Public desire to remove the "sweeps" connecting Martin Luther King, Jr. Boulevard with King and Walnut Streets

1 Ongoing downtown residential development is expected to increase the number of households by 2030, but the population will decrease because each household will have fewer people.

- Unclear signing
- Safety and congestion issues at the Maryland Avenue and Madison Street intersection
- The 2008 Wilmington Bicycle Plan proposed bike routes along Martin Luther King, Jr. Boulevard and Maryland Avenue

Rodney Square

- Conflicts between pedestrian use of the Square and its current function as a bus hub:
    - Pedestrian overcrowding during peak hours, leading to concerns about security and comfort
    - Too many buses to fit around the perimeter of the Square, resulting in buses stopping in travel lanes
    - Safety concerns associated with pedestrians accessing buses that are not stopped at the curb
    - Aesthetics
    - Noise/air pollution

Delaware Avenue/I-95 area

- Pedestrian access issues
- Traffic congestion at four intersections
    - 9th and Adams Streets, I-95 northbound off-ramp
    - 11th and Adams Streets, I-95 southbound off-ramp
    - Delaware Avenue and Washington Street
    - Delaware Avenue, 11th, and Jefferson Streets
- Confusing signage
- Speeding
- Left turn prohibition from westbound 10th Street to southbound Washington Street
- The 2008 Wilmington Bicycle Plan proposed bike routes along Delaware Avenue from Jefferson Street to the west, as well as 11th and 12th Streets from Delaware Avenue to the east

North Market Street

- Pedestrian access issues
- Signal timing concerns
- Conflicts with parked cars, school buses, emergency vehicles, and trolley
- The 2008 Wilmington Bicycle Plan proposed Market Street between the Brandywine Creek and Martin Luther King, Jr. Boulevard as a bicycle boulevard

4th Street

- Pedestrian access and safety issues, especially at King and Madison Streets
- Opportunities for gateway and/or streetscape treatments at I-95
- Traffic congestion at three intersections
    - 4th and Jackson Streets, I-95 southbound off ramp
    - 4th and King Streets
    - 4th and Walnut Streets
- No left turn lane from eastbound 4th Street to northbound Adams Street

King Street

- Excessive width south of 8th Street characterized by pedestrian access issues and speeding
- General concerns about the high number of buses queuing along King Street, as well as congestion due to the downstream traffic signal at Martin Luther King, Jr. Boulevard and Market Street
- The 2008 Wilmington Bicycle Plan proposed a bike route along the entire length of King Street

Orange Street

- Difficult pedestrian crossings at 10th and 11th Streets
- Lane shift at 9th Street

Walnut Street

- Speeding
- Pedestrian access issues
- Lanes are not aligned across some intersections
- Traffic congestion at three intersections: Front, 2nd, and 4th Streets

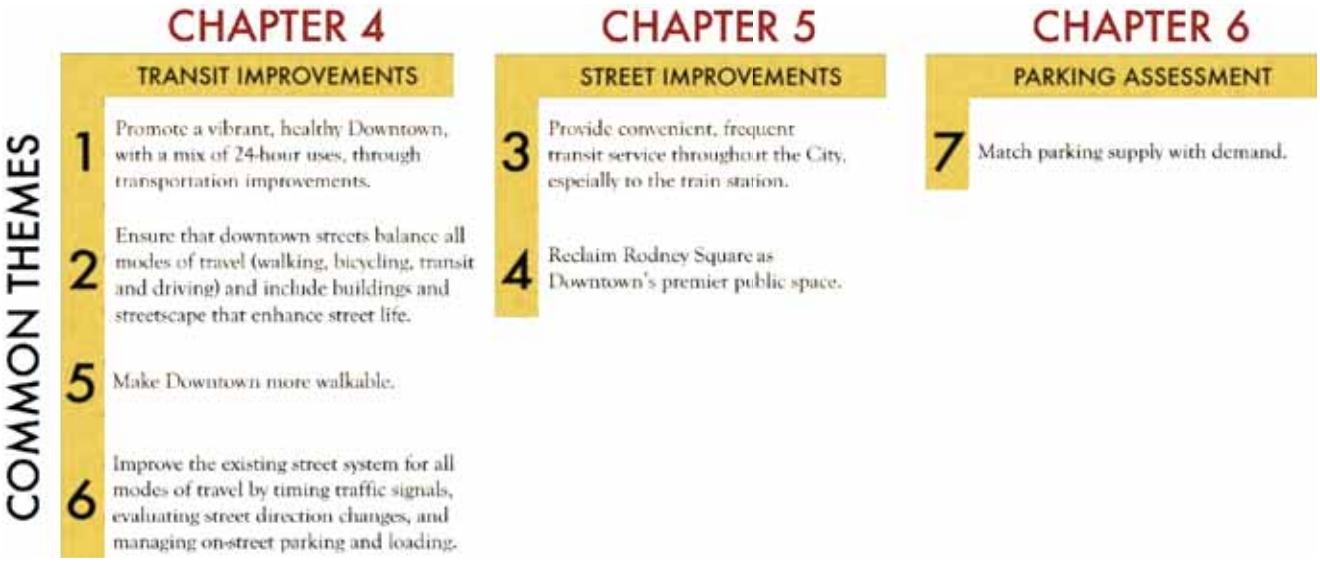
Common Themes Become Recommendations

As part of the ongoing public outreach process, the results of the technical analyses and the identified transportation needs were presented at a second public workshop on March 19, 2009 in the lobby of 919 Market Street, a centrally-located office tower in downtown Wilmington. As in the first public workshop, WILMAPCO's project manager made a brief presentation three times, and attendees had an opportunity to review information and provide comments. In particular, opinions were solicited about how anticipated transportation needs could be met, either in terms

of transportation system improvements or measures to better manage demand. Comments received at the second workshop were used as the basis for developing recommendations.

Over the course of the study, the common themes merged into three groups. The first group focuses on DART bus service. The second group relates to the multimodal functions of downtown Wilmington's streets. The third group addresses parking issues. The graphic below illustrates where recommendations related to the seven common themes are organized in the remaining chapters of the report.

Exhibit 8: Common Themes divided into Report Chapters.



4. TRANSIT IMPROVEMENTS

The study's focus on transit is especially appropriate, as new mixed-use downtown development continues to bring more residents downtown. New residential, retail, and entertainment projects are complete or underway along the Market Street corridor. One of the great benefits of urban living is the ability to travel without a car, where transit plays a key role in making that possible.

Transit Center Needs and Evaluation Process

Bus congestion around Rodney Square is one of the most frequently noted concerns in the public involvement process for the study. The Square, downtown Wilmington's landmark public space since it opened in 1923, became the hub of bus operations for New Castle County in 1995. The purpose of this decision was clear: to facilitate transfers between routes in DART's hub-and-spoke system. To better accommodate transfers, DART also instituted scheduling changes known as a "pulse" system, where bus departures are timed to occur nearly simultaneously, generally twice an hour.

This strategy was very successful in serving transit patrons; system ridership has grown consistently since the implementation of the bus hub at Rodney Square. However, transit at Rodney Square has become a victim of its own success. The Square, which can accommodate 14 standard 40-foot buses along 10th, 11th, and King Streets, at times needs to accommodate 24 nearly simultaneous bus departures. This situation leads to buses stacking two or even three deep, particularly on King Street, during peak times, as shown in Exhibit 9. Concerns for pedestrian safety, difficulties finding buses, and traffic congestion have resulted. In addition, as new downtown residential projects have been built, residents have expressed concern about the crowded conditions of the Square. Moreover, the Wilmington Police Department and Downtown Visions, a quasi-public agency charged with the safety and cleanliness of downtown Wilmington, have both indicated that the pedestrian density along the edges of Rodney Square leads to public safety and security issues. In summary, Rodney Square is asked to play the dual roles of landmark

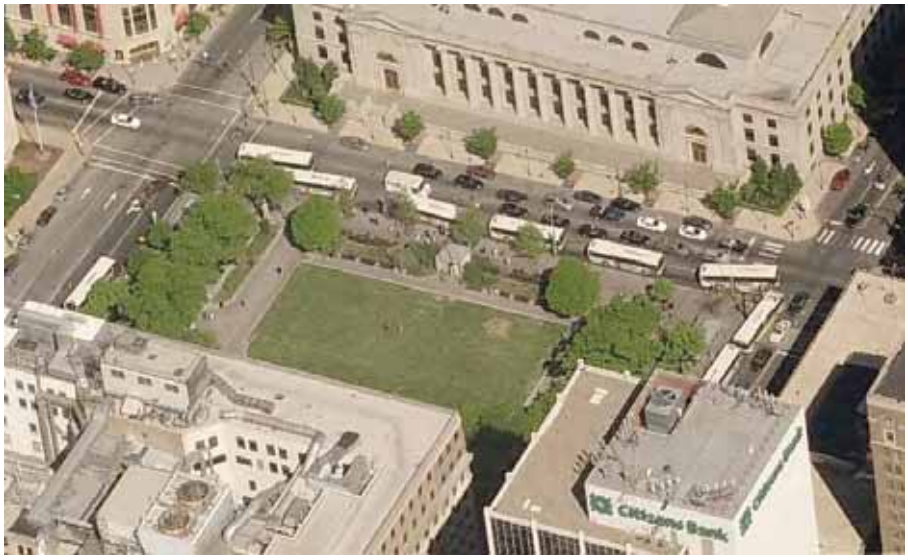


Exhibit 9: Example of bus stacking along King Street (Rodney Square).

public space and active bus hub. Because it is not large enough to do both successfully, each role suffers.

These issues led the study team to evaluate nearby sites to move the bulk of transit operations, allowing Rodney Square to return to its status as a landmark public space.

Overview of Transit Operations in Downtown Wilmington

To gain an understanding of DART's current downtown operations, the study team conducted a number of interviews with DART staff and obtained ridecheck and transfer data from DART.

Downtown Wilmington forms the hub of DART's bus system, which provides over 10 million passenger trips annually. Downtown is served by 38 of DART's 60 bus routes. Thirty-four of those routes generally follow one of two primary loops as illustrated in Exhibit 10. The Orange Street loop, depicted in solid orange, serves 22 routes from a variety of directions. Buses on the Orange Street loop lay over at Rodney Square. The Amtrak loop, shown in solid blue, is used by 12 routes, primarily to and from the northwest; layovers occur adjacent to the Amtrak station at the south end of the loop. Buses enter and depart these loops using a number of downtown streets as shown using dashed lines with colors corresponding to the respective loops. Three other routes using conventional buses are shown in purple; the Wilmington Trolley circulator (Route 32) is illustrated in green.

Short-Term Recommendation: Operational Changes

A number of operational changes were studied to remedy these concerns. Each of these changes consisted solely of realignment of existing routes, relocation of layover points, and timing adjustments. For short-term recommendations, the WDCS did not consider changes in the basic system-wide route structure. Revisions to the Orange Street loop were evaluated as a short-term option so that layovers on that loop can be shifted away from Rodney Square as soon as possible, as shown in Exhibit 11. In this scenario, buses on the Orange Street loop will stop along the 11th Street side of Rodney Square without a layover, then proceed to a layover at one of two locations: the west side of the 1000 block of French Street or the west side of the 800 and 900 blocks of Shipley Street. Both locations are within about a block of Rodney Square, allowing transfers to occur in relatively close proximity. Combined, French and Shipley Streets can accommodate layover of 14 to 15 buses.

As illustrated in Exhibit 11, the short-term Orange Street loop relocation is as follows. Buses on the route stop on the 11th Street side of Rodney Square. They then continue east on 11th Street, turning right onto French Street. Five buses can lay-over on the west side of the 1000 block of French Street, displacing ten parking spaces. The route then turns right on 10th Street, then left on Shipley Street. The study team evaluated the intersection of 10th and Shipley, which is

currently not signalized, and found that adding 44 buses in the peak hour to the westbound left-turn movement would not require signalization.

The relocated Orange Street loop would include another layover point, on the west side of the 800 and 900 blocks of Shipley Street. These two blocks can accommodate 10 buses, though 9 is preferable to avoid bus layovers between the parking garage entrances on the 900 block. The 800 block is particularly suited to bus layovers, as the street along most of the west side of this block has been widened by 8 feet. Nine parking spaces will be removed on these two blocks.

Exhibit 10: Schematic of existing transit operations.

Base Map Source: Google Maps

Exhibit 11: Proposed short-term bus route changes.

Base Map Source: Google Maps

The loop would continue south on Shipley Street. Specific stop locations have not been determined, but nearside stops at 7th and 5th Streets would require the removal of only one parking space each. A farside stop could also be considered at 4th Street without parking impacts. At DART's request, the study team evaluated having buses continue straight past 4th Street on Shipley Street, turning left onto 3rd Street and then right onto King Street to return to their previous alignment. Doing so will likely require the removal of 4 parking spaces on each side of 3rd between Shipley and Market Streets, and two on the south side of 3rd Street approaching King Street.

This short-term Orange Street loop relocation will remove bus layovers from Rodney Square and shift significant bus volumes from King Street. This recommendation addresses two of the primary goals suggested by project stakeholders during the public outreach process. Impacts of the relocation include:

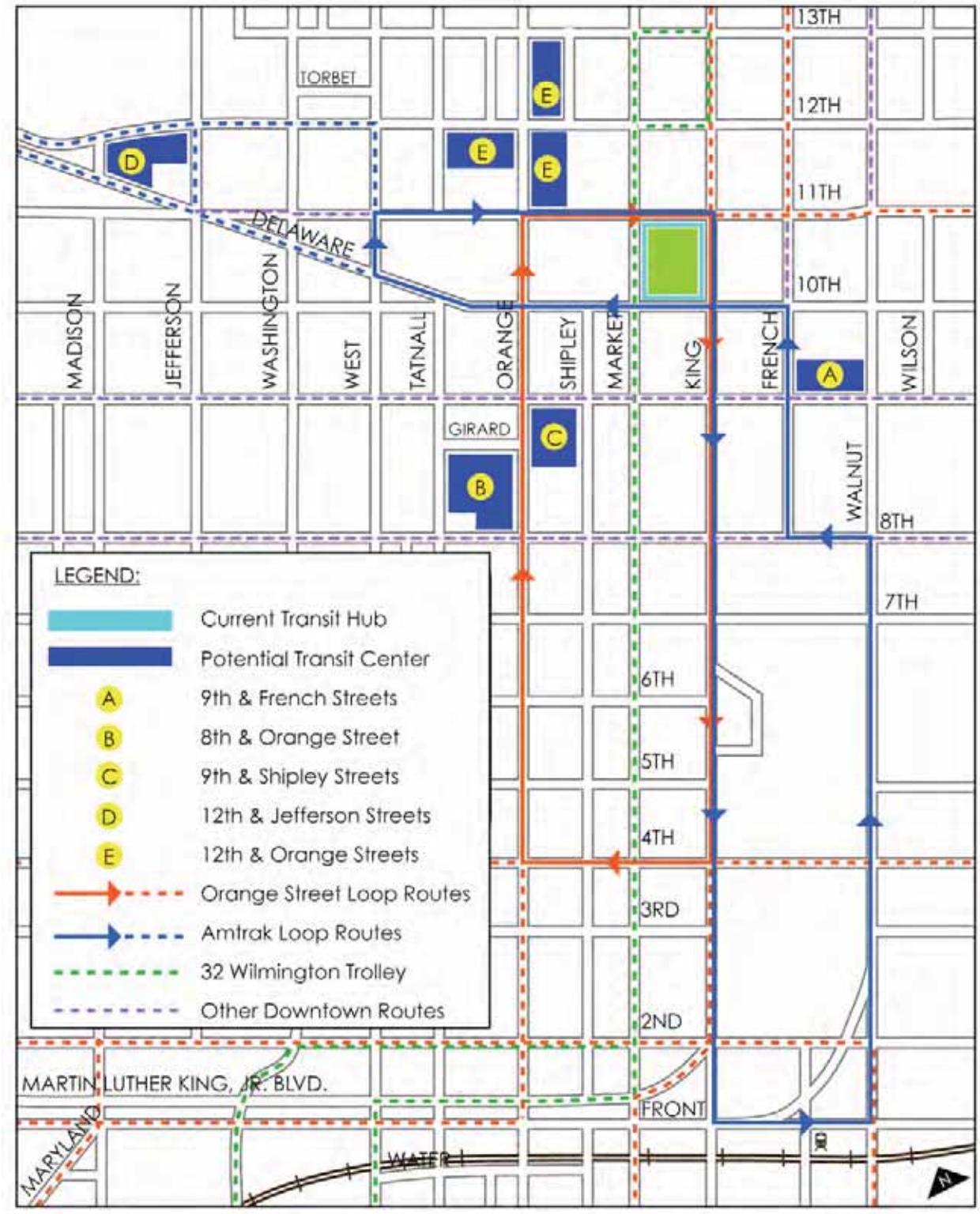
- Removal of approximately 31 on-street parking spaces along Shipley Street;
- Lengthening the loop by six blocks; and
- Possible signal timing adjustments to reduce the potential for bus queuing on 4th Street.

Long-Term Recommendation: Potential Transit Center Sites

The study team evaluated five potential transit center sites. These sites were initially identified based on their underutilization for a central business district setting (none contain buildings or highly-utilized parking structures) and their size (about one acre or larger). At the request of Wilmington Initiatives, the study team also looked at an alternate option that would disperse bus stops rather than concentrating them at one location.

Exhibit 13 provides a summary of the issues associated with each of the initial sites considered.

Exhibit 12: Initial transit center sites considered.



Base Map Source: Google Maps

Exhibit 13: Evaluation matrix for initial transit center sites.

Criterion	A. 9th & French	B. 8th & Orange	C. 9th & Shipley	D. 12th & Jefferson	E. 12th & Orange	F. Distributed stops
Reduction of buses at Rodney Square at one time	Approximately 50 to 70%	Approximately 50 to 70%	Nearly 100%	not studied	not studied	Approximately 50 to 70%
Reduction of bus traffic on King Street at one time	At least 80% north of 8th; no reduction south of 8th	At least 30%	At least 80% north of 8th; no reduction south of 8th	not studied	not studied	At least 30%
Transit center site availability	Publicly owned (by the State) and currently unused	Publicly owned (by the Wilmington Parking Authority)	Privately owned (by Taberna Capital Management)	Privately owned (by Colonial Parking)	Varies	No transit center needed
Transit center site acreage	0.89 acres	1.76 acres	1.46 acres	approx. 1.0 acres	0.8 to 1.0 acres	On-street
Approximate transit center capacity (assigned stops)	9	12	12	not studied	not studied	15 to 18
Approximate transit center capacity (random stops)	15 to 20	24 to 28	24 to 30	not studied	not studied	30 to 36
Joint development opportunity	Good	Good	Good	Good	Good	None
Ease of transfers	On-site with dedicated covered stops	On-site with dedicated covered stops	On-site with dedicated covered stops	On-site with dedicated covered stops	On-site with dedicated covered stops	Distributed over four blocks
Impacts to on-street parking	5 to 10 spaces	18 to 20 spaces	18 to 20 spaces	None	None	70 to 80 spaces
Impacts to off-street parking (could be offset by structured parking above the transit center)	No public spaces	222 spaces	462 spaces	141 spaces	81 to 495 spaces	None
Consistency with existing routes	Most downtown routes lengthened (Orange and inbound Amtrak), but only two blocks; inbound routes stop at hub before Rodney Square	Orange loop lengthened by six blocks; Amtrak loop relocated and shortened	Orange loop lengthened by six blocks; Amtrak loop relocated and shortened	Would lengthen 32 of 39 downtown routes, 22 of them substantially	Would marginally lengthen all downtown routes	Orange loop unchanged; Amtrak loop relocated and shortened
Proximity to courthouse	3 blocks	5 blocks	4 blocks	11 blocks	8 blocks	4 blocks
Proximity to Delaware Avenue employment centers	4 blocks	Adjacent	Adjacent	Adjacent	Adjacent	Adjacent
Proximity to Delaware Tech	8 blocks	4 blocks	4 blocks	9 blocks	7 blocks	4 blocks
Proximity to East Side residents	Adjacent	5 blocks	4 blocks	9 blocks	4 blocks	4 blocks
Proximity to Government Center	Adjacent	3 blocks	2 blocks	8 blocks	5 blocks	2 blocks
Proximity to Market Street mixed-use corridor	2 blocks	2 blocks	1 block	6 blocks	2 blocks	1 block
Proximity to Rodney Square employment centers	Adjacent	Adjacent	Adjacent	4 blocks	Adjacent	Adjacent
Proximity to West Center City residents	5 blocks	Adjacent	Adjacent	1 block	3 blocks	1 block
Financial factors	Relatively low capital cost (joint development would greatly increase cost but could provide revenue)	High capital cost to replace existing surface parking (could be offset by joint development revenue)	Very high capital cost to replace existing structured parking (could be offset by joint development revenue)	High capital cost to replace existing surface parking (could be offset by joint development revenue)	Very high capital cost to replace existing structured parking (could be offset by joint development revenue)	Loss of on-street parking revenue

Sites Dropped from Consideration

Through extensive discussions among Wilmington Initiatives Partners, operations and planning staff from DART, and the study team, the number of alternatives considered was reduced from six to two. The following sites were dropped from consideration.

- **A. 9th & French Streets:** This 0.89-acre parking lot is owned by the State of Delaware and was originally considered a good candidate for a transit center. It has less bus layover capacity than some other options due to its relatively small size, but links well with existing DART bus routes and provides good service to the nearby Government Center. This site was dropped from consideration, as requested by the State, as the site is needed to provide parking for the sale and/or redevelopment of the adjacent Education Center building.
- **D. 12th & Jefferson Streets:** This site was dropped from consideration because it is the farthest site from the existing hub at Rodney Square and is further removed from most existing residential and employment centers than the other sites under consideration. This site would require extending nearly every downtown DART route, creating a severe impact to bus operations.
- **E. 12th & Orange Streets:** This site is an assemblage of three sites, each with older parking garages, at this intersection on the north side of downtown. This site is further from most residential and employment centers than other sites considered and would require the removal of relatively well-used structured parking.
- **F. Distributed stops:** The primary concern with this alternative is its inconvenience to transit patrons, who have grown accustomed to transfers at the bus hub at Rodney Square. A distributed-stop option would also require removal of many on-street parking spaces.

Detailed Site Evaluation

The study team further evaluated two sites along the 800 block of Orange Street as potential transit hub locations. Both sites provide the most opportunity for bus layover, are centrally located, and have relatively little impact on transit operations. Because the two sites are adjacent to each other, as illustrated in Exhibit 14, they share many characteristics. For example, the population, employment and household growth rate projections for the surrounding area are the same as shown in Exhibit 15.

Exhibit 14: Aerial photograph of the 8th & Orange site (yellow outline) and the 9th & Shipley site (blue outline)

Exhibit 15: Demographics within 1,500 feet of the 8th & Orange and 9th & Shipley sites.

	2005	2030	% Change
Employment	23,482	20,348	-13%
Population	4,203	3,990	-5%
Households	1,681	1,720	2%

Source: Wilmington Area Planning Council, adapted by WR&A

However, there are characteristics that are unique to each site. For example, the 8th & Orange site is 20% larger than the 9th & Shipley site, which increases the footprint for development opportunities. The 9th & Shipley site is adjacent to two generally commercial north-south streets (Orange and Shipley Streets), which could both be readily used for bus operations; the 8th & Orange site is bounded by Tatnall Street on the west, which is less suited as a bus corridor due to its partially residential nature.

Accordingly, the sites are evaluated independently and then presented in a matrix, which summarizes the results of the joint development evaluation for both sites.

8th & Orange Site

Existing Conditions

This site is bounded by 8th, Orange, Girard, and Tatnall Streets. It is currently a 222-space surface parking lot owned and operated by the Wilmington Parking Authority. Exhibit 14 shows a satellite

image of the current parking layout. The lot size is 1.76 acres and is the former site of the News Journal newspaper printing plant. The site is 100% within the C-3 Central Retail zone, which allows for a building height of 180 feet and a floor area ratio (FAR) of 6.0 for both residential and commercial uses. Total allowable development based solely on zoning is approximately 460,000 square feet.

The site is surrounded by low intensity commercial uses and the Midtown Parking Center to the east. Employment and population within 1,500 feet of the site (approximately an 8 to 10 minute walk) are projected to decrease by 13% and 5% respectively from 2005 to 2030. However, the number of households is projected to increase by 2% for the same time period, reflecting a decrease in the number of persons per household. The demographics within 1,500 feet of the site are shown in Exhibit 15.

Pedestrian linkages include sidewalks that connect to the Market Street retail corridor, approximately 550 feet away, and to Rodney Square, the traditional center of downtown, approximately 1,000 feet away.

Transit Operations

Due to the character of the surrounding streets and adjacent land uses, primary transit access to the 8th & Orange site would be only from Orange Street. To best serve buses using both the Orange and the Amtrak loop, the study team believes reconfiguring Orange Street for two-way operation between 12th Street and Martin Luther King, Jr. Boulevard would be important if this site is selected. Amtrak loop buses could then be routed southbound on Orange Street, with Orange Street loop buses routed northbound. Initial traffic analyses indicate that the street network can accommodate such a change from a capacity standpoint, and an additional southbound route for all traffic could help reduce periodic congestion on King and Washington Streets.

The primary constraint on two-way Orange Street would be its width: 30 feet from curb to curb. This width works well for one travel lane in each direction and one parking lane with periodic bus stops. However, bus stops in the other direction would require construction of pulloff areas with some associated right-of-way impact to maintain adequate sidewalk width. Though not studied in detail, existing surface lots in the 200, 500, and 600 blocks may be appropriate locations for such pulloffs.

The City of Wilmington is not in favor of such a significant change in the role of Orange Street. The street currently provides an efficient northbound route to Delaware Technical and Community College and downtown Wilmington, particularly in the morning peak hour. Retaining Orange Street in its one-way configuration would require southbound buses to use Tatnall Street, on the west side of the 8th & Orange site. Tatnall Street is not currently served by fixed-route transit. Although the street is lined by retail uses adjacent to the potential transit center site, it is predominantly residential to the south. There is concern about the impact bus routes could have on this residential area.

Joint Development Potential

The total assessed value of the site is approximately $5.9 million, which is approximately $3.4 million per acre, $27,000 per parking space, and $12.88 per square foot of allowable redevelopment. Property taxes are not levied against this site because it is publicly owned.

Exhibit 16: 8th & Orange site assessed value.

Assessed Value	Land	$5,880,600
	Structure	$41,300
	Total Assessed Value	$5,921,900
Value per Acre	Total Assessed Value	$5,921,900
	Acres	1.76
	Value per Acre	$3,364,715
Value per Square Foot	Total Assessed Value	$5,921,900
	Square Feet	76,643
	Value per Square Foot	$77.27
Value per Allowable Development (FAR)	Total Assessed Value	$5,921,900
	Total Allowable Development Square Feet (FAR 6.0)	459,858
	Value per Developable Square Foot	$12.88
Value per Parking Space	Total Assessed Value	$5,921,900
	Parking Spaces	222
	Value per Parking Space	$26,675

Source: BBP & Associates, 2009

In determining the joint development potential of the site, the study team evaluated several attributes.

More Favorable Joint Development Attributes

- Owned by a public agency, the Wilmington Parking Authority:
  - Public land, which is generally more feasible for development
  - Accessible to potential public funding/financing
  - Potential supportive political/public consent
- Located in the downtown core near major downtown employers and several major pedestrian linkages such as Market Street

- Located adjacent to possible attractive/supporting redevelopment opportunities, including the Midtown Parking Center across Orange Street and potential retail redevelopment on 8th, 9th, Tatnall, and Orange Streets
- Minimal demolition costs for redevelopment use because there is no building on the site

Less Favorable Joint Development Attributes

- Not well suited to accommodate both north- and southbound bus operations
- Possible environmental concerns/site contamination from the site's prior use as a newspaper printing plant
- Development constraints due to the L-shape of the parcel and its C-3 zoning, which is not the most supportive zone for transit oriented development
- Temporary loss of 222 prime downtown parking spaces during construction

Development Opportunities

The development opportunity is the build-out potential based on the proposed transit facility, site characteristics, and zoning parameters. The site is wholly within the C-3 (Central Retail) zone, which allows residential, office and retail space, does not require setbacks, and has a maximum Floor Area Ratio of 6.0. Sample development scenarios are outlined below.

Site dimensions: 1.76 acres or 76,643 SF

- Transit center
    - Must be located along Orange Street between 8th and Girard Streets for bus operations
    - Accommodates about 12 buses with assigned stops (sawtooth configuration) or about 24 buses without assigned stops
    - 172 ft. x 284 ft. = 48,848 SF
    - Required height of 15 ft.
- Garage access ramp (to access parking over transit facility)
    - Location to be determined; potentially along Tatnall Street or 8th Street
    - 40 ft. x 120 ft. = 4,800 SF
- Retail/service (passenger amenities and supportive retail)
    - Location to be determined; likely along north side of site
    - 40 ft. x 62 ft. = 2,480 SF
- Ground floor development site – not required for transit
    - Located at the corner of Tatnall and Girard Streets
    - 80 ft. x 224 ft. = footprint of about 18,000 SF (less garage ramp, if applicable)

Parking Assumptions

- Parking garage over the transit facility will include parking to replace the existing surface lot and parking to support on-site development. A 10-foot height per parking level is assumed.
- To reflect transit orientation, parking to support on-site development is reduced from the 2.0 parking spaces per 1,000 SF of development typical in downtown Wilmington to 1.6 parking spaces per 1,000 SF, a 20% reduction.

- Development options listed below are less than the maximum allowable because they assume development-oriented parking will be provided on site.
- Additional development may be possible if an even lower parking ratio is provided.

Sample Development Scenarios

Scenario #1

- 3-story, 36' high, 54,000 SF development at corner of Tatnall and Girard Streets
- 2-floor parking garage over transit center (10 ft. height per parking level); 35-ft total height
- 308 parking spaces (222 to replace existing parking spaces and 86 to serve new development)

Scenario #2

- 8-story, 96' high, 144,000 SF development at corner of Tatnall and Girard Streets
- 3-floor parking garage over transit center (10 ft. height per parking level); 55-ft total height
- 452 parking spaces (222 to replace existing parking spaces and 230 to serve new development)

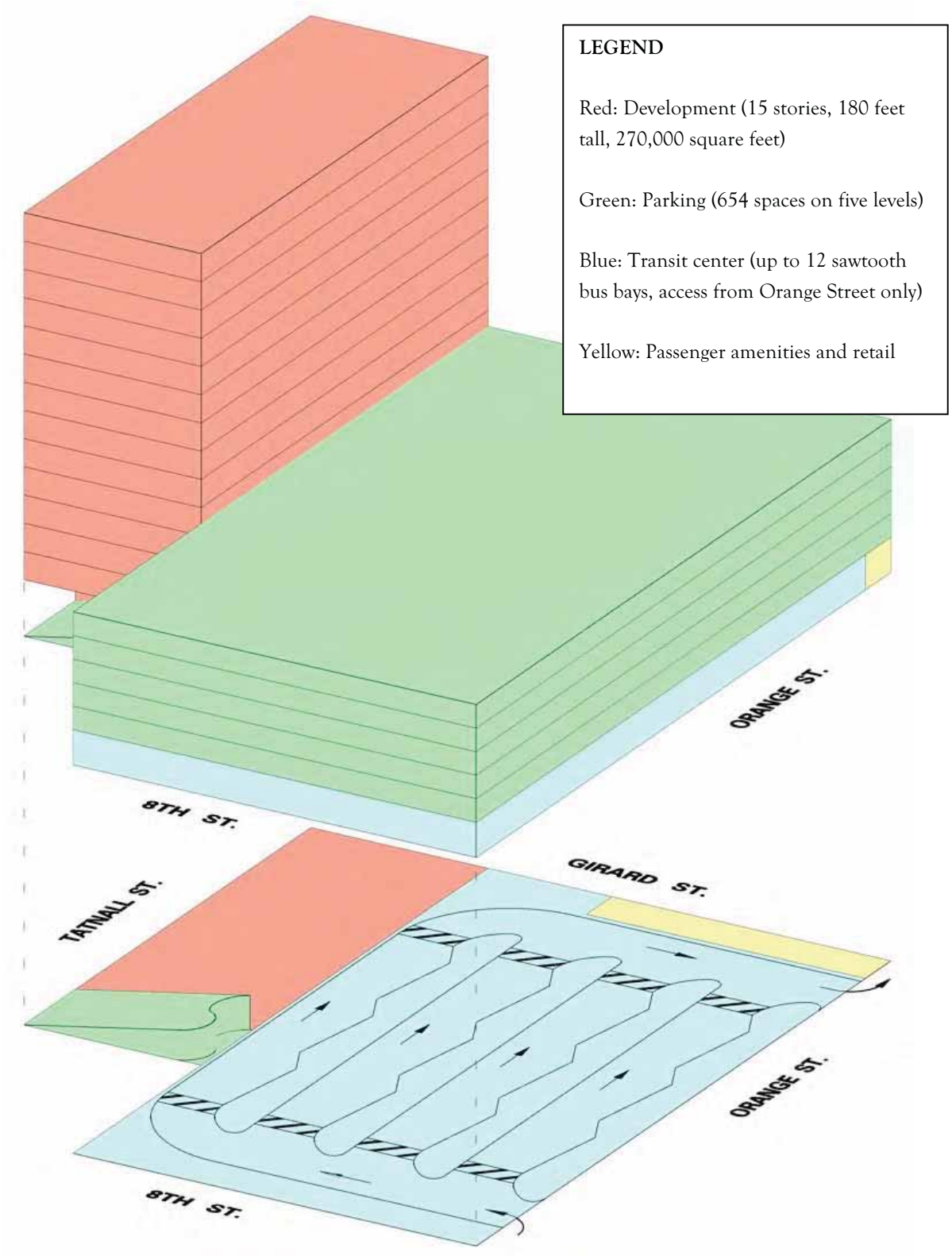
Scenario #3

- 13-story, 156' high, 234,000 SF development at corner of Tatnall and Girard Streets
- 4-floor parking garage over transit center (10 ft. height per parking level); 55-ft total height
- 596 parking spaces (222 to replace existing parking spaces and 374 to serve new development)

Scenario #4 [illustrated in Exhibit 17]

- 15-story, 180' high, 270,000 SF development at corner of Tatnall and Girard Streets (maximum height permitted by zoning)
- 5-floor parking garage over transit center (10 ft. height per parking level); 65-ft total height
- 654 parking spaces (222 to replace existing parking spaces and 432 to serve new development)

Exhibit 17: Diagram showing Scenario #4 for 8th & Orange development.



9th & Shipley Site

Existing Conditions

This site is bounded by 9th, Orange, and Shipley Streets. It is currently a 462-space, three-level parking garage with retail spaces along 9th Street. The property is privately owned by Taberna Capital Management and managed by Colonial Parking. Exhibit 14 is an aerial view showing upper level of the garage. As can be seen from the image, the retail space on 9th Street is integral to the structure of the garage as it is underneath the third level of parking. The lot size is 1.46 acres and is 66 percent within the C-3 Central Retail zone, which allows for a building height of 180 feet and a floor area ratio (FAR) or 6.0. The remaining 34%, at the north end of the site, is within the C-4 Central Office zone, which has an unlimited building height, a 20.0 FAR for commercial, and a 6.0 FAR for residential. Total allowable development based solely on zoning is approximately 680,000 square feet.

Pedestrian linkages include a covered passageway connecting directly to the Market Street retail corridor about 200 feet away; Rodney Square is about a 600-foot walk. The site is surrounded by low intensity retail and commercial uses, a high-rise office building, mid-rise retail on Market Street, and mixed-use buildings across Shipley Street, as well as the Wilmington Parking Authority's parking lot. Given the proximity of the two sites, the demographic projections are essentially the same, decreasing employment and population and increasing households. The demographics within 1,500 feet of the site are shown in Exhibit 15.

Transit Operations

The short-term route modifications illustrated in Exhibit 11 mesh well with the configuration of the 9th & Shipley site because transit access can be provided from both Orange and Shipley Streets. To facilitate transfer opportunities between the Orange Street and Amtrak loops, it may be desirable to relocate the inbound Amtrak loop to Delaware Avenue, 10th Street, and Shipley Street. Inbound Amtrak buses could enter the transit center from Shipley Street to lay over, and inbound Orange Street loop buses would enter from Orange Street to do the same. The configuration of the center could allow flexibility in staging buses from both loops.

Because this site is closer to the existing bus hub at Rodney Square, it may be less of a transition for riders than the 8th & Orange site. Development of the 9th & Shipley site and bus routing along Shipley Street would also likely support revitalization of Shipley Street, a project that has been a priority for City government since 2004.

Joint Development Potential

The total assessed value of the site is approximately $5.2 million, which is approximately $3.6 million per acre, $11,000 per parking space, and $7.66 per allowable square foot of development. Total property taxes paid in 2008 were $86,515.

Exhibit 18: 9th & Shipley site assessed value.

Assessed Value	Land	$4,737,200
	Structure	$484,000
	Total Assessed Value	$5,221,200
Value per Acre	Total Assessed Value	$5,221,200
	Acres	1.46
	Value per Acre	$3,576,164
Value per Square Foot	Total Assessed Value	$5,221,200
	Square Feet	63,478 (21,480 in C-4 zone, 41,998 in C-3 zone)
	Value per Square Foot	$82.25
Value per Allowable Development (FAR)	Total Assessed Value	$5,221,200
	Allowable Development Square Feet, C-4 zone (FAR 20.0)	429,600
	Allowable Development Square Feet, C-3 zone (FAR 6.0)	251,988
	Total Allowable Development Square Feet	681,588
	Value per Developable Square Foot	$7.66
Value per Parking Space	Total Assessed Value	$5,221,200
	Parking Spaces	462
	Value per Parking Space	$11,301

Source: BBP & Associates, 2009

As with the 8th & Orange site, the study team evaluated several attributes in determining the joint development potential of this site.

More Favorable Joint Development Attributes

- Large rectangular site
- Located in the downtown core near major downtown employers and several major pedestrian linkages, including a direct connection to Market Street
- Located adjacent to possible attractive/supporting redevelopment opportunities, including the Wilmington Parking Authority lot across Orange Street and potential retail redevelopment on the remaining parcels on the block as well as on 9th and Market Streets
- Buses may enter and exit from Orange, 9th, or Shipley Streets, providing good access and flexibility for bus operations
- The existing parking garage is in need of redevelopment/replacement due to its age and structural concerns

Less Favorable Joint Development Attributes

- Privately owned by Taberna Capital Management, creating possible acquisition issues (however, the operator indicates the owner may be amenable to a development opportunity)
- Demolition costs associated with a large structure located in a core urban/downtown setting
- Temporary loss of 462 prime downtown parking spaces during construction

Development Opportunities

The development opportunity is the build-out potential based on the proposed transit facility, site characteristics, and zoning parameters. Approximately 35% of the site is in the C-4 (Central Office) zone, which allows a FAR of 20.0 for office uses and 6.0 for residential uses; 65% of the site is in the C-3 zone which has a FAR of 6.0 for all uses. In situations where a site is affected by two or more zones, the City's policy is to apply the zoning regulations to the land area within the zone regardless of property lines. Sample development scenarios are outlined below.

Site dimensions: 1.46 acres or 63,478 SF

- Transit center
  - Covers the majority of the site
  - Accommodates about 12 buses with assigned stops (sawtooth configuration) or about 24 buses without assigned stops
  - 179 ft. x 302 ft. = 54,058 SF
  - Required height of 15 ft.
- Garage access ramp (to access parking over transit facility)
  - Located at south end of site, potentially accessed from either Orange Street or Shipley Street
  - 40 ft. x 120 ft. = 4,800 SF
- Ground floor development site – not required for transit
  - Located along 9th Street between Orange and Shipley Streets, in C-4 zone
  - Only about 5,000 SF, so not sufficient for tower development without additional air rights development (described below)

  - Will include passenger amenities and supportive retail
- Air rights development
  - Assume 15,000 SF per floor above the transit center and possibly parking
  - In combination with the 5,000 SF noted above, would result in 20,000 SF floorplates starting at the second floor

Parking Assumptions

- Parking garage over the transit facility will include parking to replace the existing surface lot and parking to support on-site development. A 10 ft. height per parking level is assumed.
- To reflect transit orientation, parking to support on-site development is reduced from the 2.0 parking spaces per 1,000 SF of development typical in downtown Wilmington to 1.6 parking spaces per 1,000 SF, a 20% reduction.
- Development options listed below are less than the maximum allowable because they assume development-oriented parking will be provided on site
- Additional development may be possible if an even lower parking ratio is provided.

Sample Development Scenarios

Scenario #1

- 5-story, 63' high, 85,000 SF development at north end of site
  - 1 story (15' high) at 5,000 SF, north of transit center
  - 4 stories (12' high) at 20,000 SF, partially over transit center
- 5-floor parking garage over transit center (10 ft. height per parking level); 65-ft total height
- 598 parking spaces (462 to replace existing parking and 136 to serve new development)

Scenario #2

- 8-story, 99' high, 145,000 SF development at north end of site
  - 1 story (15' high) at 5,000 SF, north of transit center
  - 7 stories (12' high) at 20,000 SF, partially over transit center
- 6-floor parking garage over transit center (10 ft. height per parking level); 75-ft total height
- 694 parking spaces (462 to replace existing parking and 232 to serve new development)

Scenario #3 [illustrated in Exhibit 19]

- 16-story, 195' high, 305,000 SF development at north end of site
  - 1 story (15' high) at 5,000 SF, north of transit center
  - 15 stories (12' high) at 20,000 SF, partially over transit center
- 8-floor parking garage over transit center (10 ft. height per parking level); 95-ft total height
- 950 parking spaces (462 to replace existing parking and 488 to serve new development)

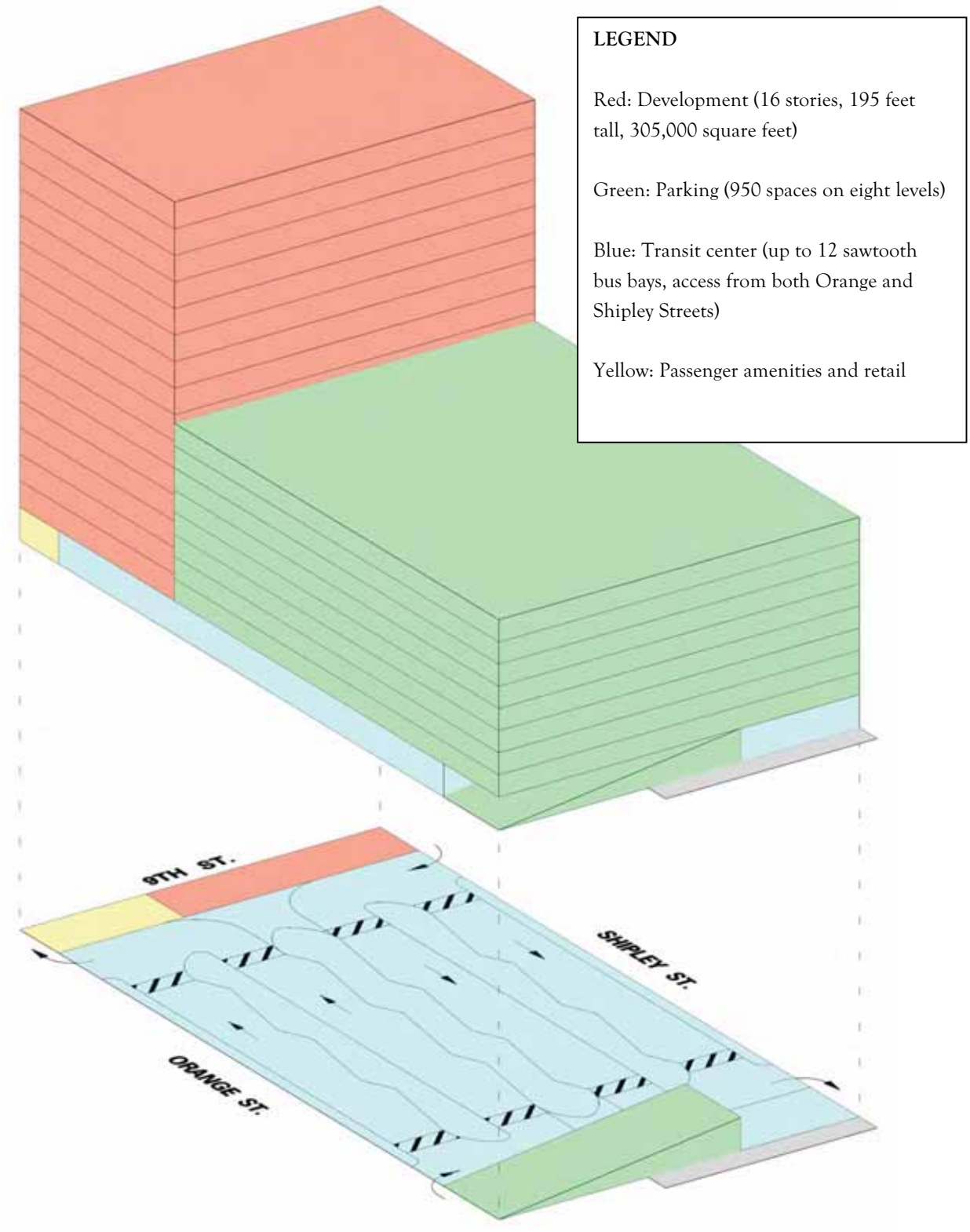
Scenario #4

- 25-story, 303' high, 485,000 SF development at north end of site
    - 1 story (15' high) at 5,000 SF, north of transit center
    - 24 stories (12' high) at 20,000 SF, partially over transit center
- 8-floor parking garage over transit center (10 ft. height per parking level); 95-ft total height
- 960 parking spaces **(requires reduction in replacement parking and/or parking ratio for new development)**

Scenario #5

- 34-story, 411' high, 665,000 SF development at north end of site (approx. maximum FAR permitted by zoning)
    - 1 story (15' high) at 5,000 SF, north of transit center
    - 33 stories (12' high) at 20,000 SF, partially over transit center
- 8-floor parking garage over transit center (10 ft. height per parking level); 95-ft total height
- 960 parking spaces **(requires reduction in replacement parking and/or parking ratio for new development)**

Exhibit 19: Diagram showing Scenario #3 for 9th & Shipley development.



Evaluation Criteria and Results

The matrix in Exhibit 20 compares the joint development characteristics and attributes of both sites.

Exhibit 20: Evaluation matrix of 8th & Orange and 9th & Shipley sites.

Site	8th & Orange	9th & Shipley
Ownership	**Public – Wilmington Parking Authority**	Private – Taberna Capital Management
Transit center potential (not including on-street stops)	12 assigned (sawtooth) stops or 24 unassigned stops for 40-foot buses	12 assigned (sawtooth) stops or 24 unassigned stops for 40-foot buses
Transit accessibility	Limited – buses many only access the site from Orange Street, requiring Orange Street to be two-way	**High – buses may access the site from both Orange and Shipley Streets**
Surrounding land uses	Retail, low-rise commercial, and parking	Low-rise retail, high-rise office, low-rise commercial, mixed use, parking **(direct access to Market Street corridor)**
Current property tax	**No tax generation**	Approximately $86,000 annually
Assessed value	$5,921,900	$5,221,200
Potential development based on zoning	460,000 SF	**680,000 SF**
Likely development potential (assuming 1.6/ksf parking ratio)	270,000 SF	**305,000 SF**
Replacement parking needed	**222 spaces**	462 spaces
Additional parking available for development	432 spaces	**488 spaces**
Demolition cost	**Minimal – no existing structure**	Existing parking structure
Environmental issues	Possible – former site of newspaper plant	**Unknown, but unlikely**
Other	**Size and shape of site provide ability to phase construction**	Site will likely be constructed in one phase

In summary, both sites offer compelling opportunities for transit-oriented joint development. Should a developer express interest in one of the two sites, either could be successfully implemented.

Preferred Transit Hub Location: (9th & Shipley)

After further evaluation of the two remaining sites and discussion with DTC planning, scheduling and operational staff, the site at 9th and Shipley Streets has been confirmed as the preferred site for a downtown transit center. While the final two sites are similar in many ways, this site is preferred due to its access to both Orange Street (one-way northbound) and Shipley Street (one-way southbound). This combination will allow for more flexibility in transit operations without having to make major changes to the roadways or surrounding intersections. This site will also allow DTC to utilize existing bus routes with only minor adjustments. This site is one block closer to Wilmington's central business district and can easily support an intensive mixed-use transit-oriented development. The site at 8th & Orange Streets is adjacent to a residential neighborhood and Tatnall Street, which borders the site to the west, is a residential-scale street with no current transit activity. A busy transit hub with hours of service from 5:30AM to 11:30PM could have a significant impact on that neighborhood, as could the construction of an office or residential tower.

Because the two sites are located directly across Orange Street from one another, it may be possible, in the long-term, to develop both as transit-oriented development (TOD). It is generally very difficult and costly to acquire two adjacent substantial sites in a central business district environment; therefore, this report does not examine this alternative. However, this situation could occur if both property owners are willing participants. Such a scenario could allow the development to be phased even more easily, ameliorating some of the impacts of short-term parking loss. If it appears that both properties could come into play, other options for the design of both sites that would maximize development potential and support good transit service should be explored.

Implementation

Bringing the transit center and related development to fruition will require Wilmington Initiatives Partners and stakeholders to finalize site selection, determine which agencies will be responsible for the implementation of the transit center, identify funding/financing sources, and identify joint development strategies and partners. Operation of the transit center will not happen overnight. Wilmington Initiatives Partners can take steps to encourage interest in the project, such as continuing active promotion of downtown development, providing connections to the site from surrounding employment and population centers, and examining and amending, if needed, public policies to encourage transit oriented development.[2] Wilmington Initiatives Partners will continue to work with stakeholders to realize the development of a new transit center facility in Downtown Wilmington.

2 DART recently applied to the Federal Transit Administration for Livable Communities grant (Section 5309 Bus and Bus Facilities Livability Initiative Program Grants for Urban Circulator Systems) to receive funding for site planning, acquisition, and construction of a transit center at 9th & Shipley. However, the project was not selected to receive this competitive grant.

5. STREET IMPROVEMENTS

Potential improvements were exhaustively evaluated by Wilmington Initiatives during 2009 and early 2010. Thirteen recommendations, listed below, were presented to stakeholders at the study's third and final public workshop, held April 14, 2010 at the Chase Center on the Riverfront[3]:

A. Delaware Avenue / 11th / 12th Street Curve Study
B. Walnut Street Sweep Removal
C. King and Walnut Streets Improvements (Streetscape, Pedestrian, and Bicycle Accommodations)
D. Southbound Capacity and Bicyclist Improvement for N. Market Street (between 2nd Street & Martin Luther King, Jr. Blvd.)
E. Amtrak Viaduct Improvements
F. W. 4th & N. Adams Streets Intersection and Streetscape Improvements
G. Market Street On-Street Bike Route
H. Two-Way King Street (1500 block)
I. Permit left turns from westbound Delaware Avenue onto southbound Washington Street
J. Two-way 8th Street (between King & Walnut Streets)
K. Delaware Avenue Post Office Area On-Street Parking and Streetscape Improvements
L. Safety & Capacity Improvements for 5 Point Intersection (Maryland Avenue, S. Madison Street, and Martin Luther King, Jr. Boulevard)

On the next pages are more details about the feasibility of each Street Improvement recommendation.

3 Attendees were asked to provide comments and to rank the recommendations in order of priority. Because a limited number of comments were received, the list of recommendations is not prioritized.

A. Delaware Avenue / 11th / 12th Street Curve Study

Commission a roadway-geometry analysis along the curved portion of Delaware Avenue (SR52) within the central business district to restructure the corridor and identify specific streetscape, pedestrian, and bicycle improvements and upgrades.

The Delaware Avenue/11th/12th Street corridor forms one of the primary access points to downtown Wilmington both from I-95 and from neighborhoods to the north and west. Stakeholder feedback indicated that streets in this area are too wide, vehicle speeds are too high, and there is a lack of appropriate pedestrian and bicycle facilities. The 2008 Wilmington Bicycle Plan also identified this corridor as needing to accommodate non-motorized modes of travel.

Wilmington Initiatives Partners indicated that the curved right-of-way along 12th Street, as it turns into westbound Delaware Avenue west of Jefferson Street, shown in Exhibit 21, merits special attention. For instance, heavy vehicles moving side-by-side along these curves may warrant consideration of wider travel lanes. If vehicles driving out of the travel lanes are viewed as a concern, more separation between motor vehicle lanes and a new bicycle lane or cycle track[4] should be considered.

This analysis was included in WILMAPCO's 2012 Unified Planning Work Program (UPWP) for further study, and is currently underway.

Exhibit 21: Roadway curves from 12th Street onto Delaware Avenue.

4 A cycle track is a bike lane that is physically separated from motor vehicle traffic.

B. Walnut Street Sweep Removal

Restore the downtown street grid to this area, which will introduce new land for economic development opportunities.

This improvement was originally recommended as part of the larger Wilmington Transit Center Phase III project in the late 1990s, but was never implemented. The study team re-evaluated the proposal using current traffic volumes to determine its feasibility. Existing and proposed conditions are illustrated in Exhibits 22 and 23. Based on traffic analysis and suggestions by Wilmington Initiatives, the improvements would consist of the following:

- Narrow the Martin Luther King, Jr. Boulevard/Front Street eastbound approach to French Street to two travel lanes: one shared left-through lane and one shared through-right lane. The bus lane along the right curb would remain.5
- Widen the Front Street eastbound approach to Walnut Street to three travel lanes: two left-turn lanes and one through lane. The bus/kiss-and-ride lane along the right curb would remain.
- Reconfigure the Walnut Street northbound approach to 2nd Street to incorporate a left-turn lane, a shared left-through lane, and two through lanes.
- Remove the sweep, reuniting the block bounded by Front, 2nd, French, and Walnut Streets and providing two pedestrian plazas: one at the northwest corner of Front and French Streets (the main entrance to the train station parking garage) and the other at the northwest corner of 2nd and Walnut Streets.
- Improve sidewalks and pedestrian crossings.

This project would improve the LOS F at 2nd and Walnut Streets by eliminating a signal phase.

5 This is the only element of this recommendation that differs from the original Wilmington Transit Center Phase III plan, which retained three lanes on Martin Luther King, Jr. Boulevard approaching French Street.

Exhibit 22: Existing Martin Luther King, Jr. Boulevard and Walnut Street sweep.

Exhibit 23: Proposed removal of the Martin Luther King, Jr. Boulevard and Walnut Street sweep.

C. King and Walnut Streets Analysis (Streetscape, Pedestrian, and Bicycle Accommodations)

Complete a corridor study to develop recommendations for improving multi-modal circulation along King and Walnut Streets.

Stakeholders' comments indicated that King and Walnut Streets are unnecessarily wide, encouraging high vehicle speeds and making pedestrian crossings difficult. In addition, Mayor Baker expressed concern about the vehicular-oriented nature of King Street south of 8th Street. The WDCS recommends these two corridors be addressed as part of a future corridor-specific study.

Exhibit 24: Walnut & 4th Streets

D. Southbound Capacity and Bicyclist Improvements for N. Market Street (between 2nd Street & Martin Luther King, Jr. Boulevard)

Allow two travel lanes to proceed south on N. Market Street to Martin Luther King, Jr. Boulevard, resulting in less congestion, improved air quality emissions, and better overall environment for bicyclists.

The WDCS recommends this improvement because this block is very short, resulting in southbound N. Market Street queues from the Martin Luther King, Jr. Boulevard signal backing across 2nd Street. Illustrated in Exhibit 25, five on-street parking spaces will need to be eliminated and the tip of the Martin Luther King, Jr. Boulevard median on the east side of N. Market Street will need to be cut back to allow both lanes to proceed south along Market Street. Although this improvement cuts anticipated queue lengths in half, it will have little impact to the level of service at the intersection of Martin Luther King, Jr. Boulevard and N. Market Street because N. Market Street peak hour volumes are relatively low.

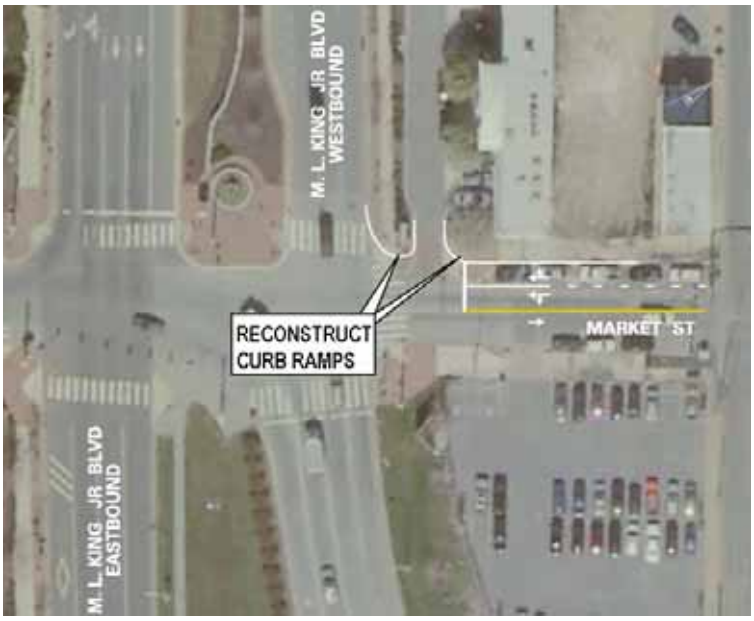


Exhibit 25: Potential improvements to 100 block of N. Market Street.

Wilmington Initiatives Partners recommend implementing this project through DelDOT's Transportation Enhancement (TE) program and submitted an application letter on July 11, 2011.

E. Amtrak Viaduct Improvements

Improve pedestrian accommodations under the Amtrak viaduct tunnels, south of Martin Luther King, Jr. Boulevard, specifically at Market and Orange Streets.

Eleven streets in the study area (Walnut, French, King, Market, Shipley, Orange, Avenue of the Arts, Tatnall, West, Justison, and Madison) pass under the Amtrak viaduct along the south side of Martin Luther King, Jr. Boulevard. Most of the sidewalks under these bridges have been upgraded in the last ten years; therefore, surface conditions are not a concern. Feedback generally referenced perceptions of inadequate lighting and discomfort due to pigeons nesting under the bridges, specifically at Market and Orange Streets. Although the potential for additional lighting and netting would need to be discussed with Amtrak, there are no known issues that would make this recommendation infeasible.

Exhibit 26: Amtrak Viaduct at Orange Street.

F. W. 4th & N. Adams Streets Intersection and Streetscape Improvements

Create a left turn bay from eastbound W. 4th Street onto northbound Adams Street.

This improvement would mirror the westbound 4th Street left turn lane onto Jackson Street at the other end of the block. Implementation will require a taper on westbound 4th Street east of Adams Street, resulting in removal of approximately two on-street parking spaces. Although initial queuing analyses indicate that both the Jackson and Adams Street turn lanes will fit on the same block, field observations indicate that the Jackson Street turn lane queues can occupy the entire block. Further study will be required for implementation.

Wilmington Initiatives Partners recommend implementing this project through DelDOT's Transportation Enhancement (TE) program and submitted an application letter on July 11, 2011.

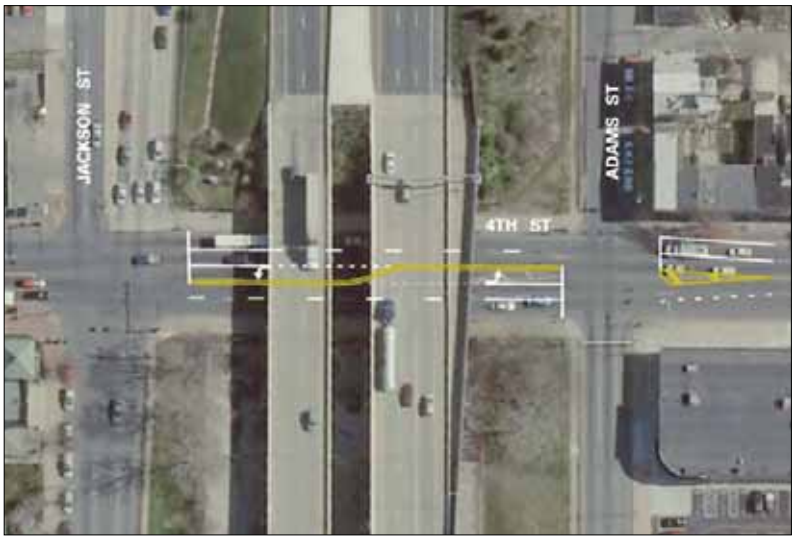


Exhibit 27: W. 4th & N. Adams Streets

G. Market Street On-Street Bike Route

Install accommodations that improve bicycle circulation, allowing bicycle traffic to co-exist with vehicular traffic.

Market Street's context as the retail center of downtown Wilmington lends itself more to slow-speed sharing of travel lanes by motor vehicles and bicycles. The 2008 Wilmington Bicycle Plan recommended Market Street be signed as a bike route. Based on the WDCS findings, and supported by the Bicycle Plan's recommendation, sharrows were installed along Market Street, along with bike signage. Bike parking has also been added to the corridor. These early action items have made Market Street a more bicycle friendly environment.

Exhibit 28: Shared-use lane markings, known as sharrows, were installed in late 2010 along Market Street.

H. Two-Way King Street (1500 block)

Complete a circulation analysis of N. Market Street and N. King Street to determine whether two-way traffic on the 1500 block of King Street, along with other improvements, will enhance both vehicular and pedestrian circulation in this area.

Originally a recommendation from the 1997 Downtown Circulation Study, the WDCS conducted field measurements and Synchro analyses to determine whether two-way King Street is feasible. Exhibit 29 illustrates how this conversion could be achieved with minimal changes to curb lines. Should this improvement proceed through project development, an alternative that dramatically reduces the curb radius on the northeast corner should be considered. This adjustment would reduce the speed of vehicles turning right from 16th Street onto N. Market Street, improving the pedestrian crossing experience. It is possible that this right-turn movement could be accommodated with a single lane.

Exhibit 29: Potential two-way traffic on the 1500 block of King Street.

This circulation analysis was included in WILMAPCO's 2012 Unified Planning Work Program (UPWP) for further study, and is currently underway.

I. Allow left turns from westbound Delaware Avenue onto southbound Washington Street.

Create better traffic circulation in West Center City.

This improvement will create better traffic circulation in this part of downtown Wilmington, particularly for westbound travelers destined for Washington Street and West Center City. The study team expects this movement will result in negligible traffic impact and minimal signal, pavement marking, and signing costs.

The WRC Pedestrian Safety Improvements, Phase I project (DelDOT-T200920013) is currently implementing this improvement, which is expected to be complete in fall 2012.

Exhibit 30: Delaware Avenue & Washington Street.

J. Two-Way 8th Street (between King & Walnut Streets)

Convert 8th Street, between King and Walnut Streets, to two-way traffic, allowing more efficient vehicular and bicyclist movement within the downtown.

Visitors to the Government Center complex heavily use on-street parking on French Street, north of 8th Street. Currently, if southbound French Street drivers cannot find parking, they either make a difficult U-turn or three-point turn in the middle of French Street, or take a circuitous alternate route (westbound 8th Street to northbound Market Street to eastbound 9th Street to French Street, a total distance of five blocks) to return to Government Center to look for parking. Drivers or cyclists exiting downtown to the north on Walnut Street must undertake these same

Exhibit 31: Potential two-way traffic on 8th Street.

movements. This is because these two blocks of 8th Street currently only permit westbound traffic. Providing two-way traffic on 8th Street will reduce these detours and provide more efficiency in the downtown traffic grid. The study team determined the improvements shown in Exhibit 31 will operate at LOS A or B. The City recognizes that a few reserved on-street parking spaces on the north side of 8th Street, between French and Walnut Streets, would need to be removed or shifted nearby in order to implement this improvement.

Wilmington Initiatives Partners recommend implementing this project through DelDOT's Transportation Enhancement (TE) program and submitted an application letter on July 11, 2011.

K. Delaware Avenue Post Office Area On-Street Parking & Streetscape Improvements

Develop alternatives for short-term on-street parking in the vicinity of Wilmington's downtown Post Office at 500 Delaware Avenue.

Exhibit 32: Delaware Avenue Post Office area

Several stakeholders noted that the new USPS Office on the ground floor of 500 Delaware Avenue lacks on-street parking along Delaware Avenue. Post Office patrons, typically only needing very short-term parking, are not interested in using the building's parking garage or further on-street or off-street parking. There have also been many observations of illegal parking in the right-hand travel lane of Delaware Avenue. This situation creates a safety concern and reduces peak hour traffic capacity. Initial analysis finds the width of the sidewalk and public right-of-way in front of the Post Office could be scaled back in order to include several on-street parking spaces along Delaware Avenue and maintain generous amounts of room for pedestrians. At the east end (Washington Street) of the 500 block of Delaware Avenue, the curb line should be retained in its current location to keep crosswalk lengths to a minimum. At the west end (Jefferson Street), the curb radius should be moved south slightly to reduce the potential for 11th Street traffic turning onto Delaware Avenue to strike the corner of the curb.

Wilmington Initiatives Partners recommend implementing this project through DelDOT's Transportation Enhancement (TE) program and submitted an application letter on July 11, 2011.

L. Safety & Capacity Improvements for 5 Point Intersection (Maryland Avenue, S. Madison Street, and Martin Luther King, Jr. Boulevard)

Redirect Maryland Avenue traffic to the intersection of Monroe Street and Martin Luther King, Jr. Boulevard to improve safety and capacity along Maryland Avenue and Martin Luther King, Jr. Boulevard corridors.

In 2008, S. Madison Street, between Martin Luther King, Jr. Boulevard and West Street, became two-way, which added another signal phase to the intersection, creating operational and safety issues. This project will improve safety and enhance capacity along the Maryland Avenue and Martin Luther King, Jr. Boulevard corridors, which have suffered from long-term congestion and level-of-service concerns.

Coordination is on going among various agencies and organizations related to this project. In addition to circulation improvements, this project expects to optimize parking and connections to the surrounding facilities, including DART/DTC and Delmarva. Pedestrian and bicycle circulation will also improve, as the traditional urban grid will be restored to the area. This will also create new parcels for future development. These proposed improvements support the City of Wilmington's and DelDOT's commitment to provide safe and convenient access at this key gateway to our expanding Riverfront area.

Exhibit 33: 5 Point Intersection

Additional Analysis

Throughout the study process, additional concepts were discussed related to the concept of complete streets, where travel lane space could be reassigned or other purposes, such as parking, landscaping, walking, or bicycling. These concepts explore ideas related to lane reassignments, which are illustrated in Appendix F.

6. PARKING

During the visioning process for the WDCS, the study team heard many comments related to parking concerns. These comments helped formulate a common theme of "match parking supply to demand". While this common theme did not rank high as a vision for transportation in downtown Wilmington,[6] comments recorded by study participants initiated the study's desire to identify parking issues and challenges related to parking enforcement.

Parking Concerns

The study team noted these concerns related to parking:

- Loading zone location and function, particularly as an impediment to parking
- Double-parking by delivery and personal vehicles on Market, 4th, and King Streets
- Limited hours of operation for parking garages, and the general lack of operational information for parking garages and lots
- Inconsistent enforcement of metered and timed parking, and
- Lack of parking options for Downtown residents in many of the new residential developments
- The perception that there is no central agency or source for comprehensive parking-related information, and similarly, no coordination of efforts dedicated to long-term planning for downtown parking.

2007 Parking Summit

The City of Wilmington held a Parking Summit on March 20, 2007, in response to the need for more clarity related to parking issues. This Summit was a joint venture between Wilmington City Council and the Mayor's Office with Councilwoman Hanifa G. N. Shabazz coordinating the Summit. Topics for discussion during the Summit included:

- Changes to the "Z" parking permit, which covered roughly the area between Martin Luther King, Jr. Boulevard to the

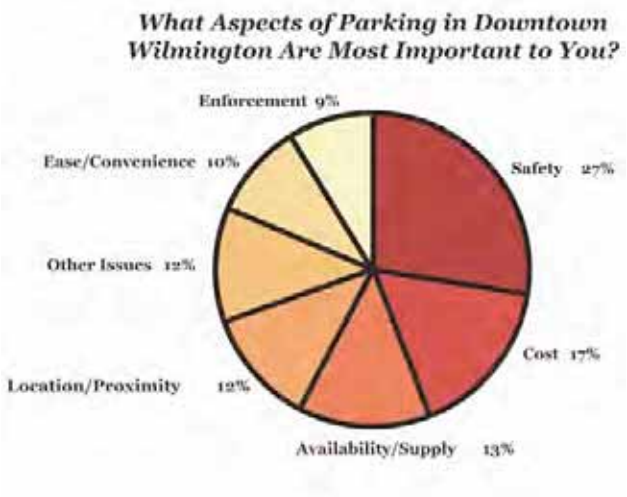


Exhibit 34: Results from 2007 Parking Survey

[6] This common theme received a weighted score of 11 based on the ranking by meeting participants at the public workshop held on December 2, 2008.

south, 14th Street to the north, Walnut Street to the east, and Washington Street to the west.

- The locations of loading zones and parking for persons with disabilities
- Parking meter time limits and locations
- Public safety
- Parking enforcement

In preparation for the 2007 Parking Summit, the Summit's planning committee administered a parking survey to gather community feedback about Wilmington's downtown parking challenges. With over 300 people completing the survey, findings included:

- 74% of respondents indicated that they park on the street verses parking in public or private garages or surface lots.
- 65% of respondents identified with the statement, "there should be enough parking enforcement to deter people from parking illegally, but don't over do it".
- 74% of respondents identified with the statement, "provide enough parking, but encourage transit, walking, and bicycle activity."

The top five parking concerns identified from the survey include:

1. Ability to walk safely to and from my car
2. Vandalism / break-ins
3. Convenience of parking
4. Information / signs about where to park
5. Availability of visitor parking

The Summit was well attended by elected officials, stakeholders, the business community and the general public. Many of the issues brought to light by the Summit were repeated during the WDCS listening session. The main result of the 2007 Summit was the division of the original "Z" parking permit zone into new zones (X, Y, and Z, and a new student parking zone) with more defined regulations. Besides this implementation, attention to other downtown parking policy and management issues has been limited.

Wilmington's City Code & Roles

The City's complex parking regulations and enforcement policies are contained in Chapter 37 (Motor Vehicles and Traffic) Article VI (Stopping, Standing, and Parking) of Wilmington's City Code. One of the challenges faced in understanding the parking regulations, administration procedures, and developing appropriate solutions to specific parking problems is that several City departments are involved in making decisions related to the parking policy, regulations, and enforcement. Because of this intertwined nature of roles and responsibilities related to parking policy, it is difficult to paint a clear picture of parking procedures.

Department of Public Works

The Department of Public Works is involved with decisions related to the location of accessible parking spaces and metered parking. Public Works also produces and posts parking regulation signs throughout the City of Wilmington. Staff from Public Works often coordinates with other agencies and departments to draft new parking regulations.

Department of Finance

The Department of Finance manages parking enforcement in the City through Parking Regulation Enforcement Officers (PREOs), enforcement (AutoVu) and booting (SmartBoot) programs the AutoVu and SmartBoot, and the Residential Parking Permit Program.

Parking Regulation Enforcement Officers (PREOs)

Parking Regulation Enforcement Officers (PREOs) are responsible for the enforcement of all parking ordinances and regulations (ticketing), the initiation of booting and towing actions, reporting of "wanted" vehicles, and reporting damaged parking meters and related parking signage. Currently, 17 PREOs plus 2 senior PREOs (supervisors) work in two shifts, covering the hours of 8AM to 5PM.

AutoVu and SmartBoot

In 2006, the Department of Finance instituted two programs to better manage parking enforcement: AutoVu and SmartBoot. Finance contracts with Paylock Inc. to support these programs. AutoVu is a computer-aided mobile license plate recognition (MLPR) system that scans license plates of vehicles parking on City streets to identify vehicles that have outstanding traffic violations that total $200 or more. Once these violators are identified, boots can immediately be placed on these vehicles until the outstanding debts are paid. Currently, there are three City staff working on scofflaw enforcements (in addition to the PREOs), and Paylock owns and staffs the AutoVu vans. The SmartBoot program allows the city to process and collect fines from booted cars more efficiently. A SmartBoot is an electromechanical boot that is released using an access code that a parking violator enters on a keypad. Representatives at PayLock's 24/7 toll-free Call Center supply the code — but only after collecting the appropriate fine via credit card, debit card, or check by phone. The person must return the boot to the City or be charged $25 per day until returned, and a stolen boot carries a $500 fine and criminal conviction.

Residential Parking Permit

The Department of Finance manages the Residential Parking Permit Program. A Residential Permit Parking Program frees up on-street parking for neighborhood residents by preventing all day commuters parking on residential streets. In Wilmington, vehicles with the parking permit

sticker exempts permit holders from the one- and two-hour parking restrictions within specific permitted districts.

There are 8 different residential parking permit zones within Downtown Wilmington[7]. These are zones A, K, M, T, X, Y, Z, and "Student". PDFs of these parking permit zone maps can be found at http://www.wilmingtonde.gov/residents/citymaps.

Residents are eligible to receive four permit stickers upon proving residence in the district (drivers license and registration both showing permit address), and the stickers must be renewed annually. The stickers exempt permit holders from one- and two-hour parking restrictions within the permitted district. Approximately 400 stickers are distributed per month, depending on the cycle of which zones are expiring in a given month.

Stickers are to be displayed on the right rear bumper, or the lower right hand corner of the back windshield. PREOs enforce the residential parking zones during weekday enforcement hours (8 AM – 6 PM). Enforcement is limited on weekends and holidays, but police are authorized to enforce restrictions at any time.

Wilmington City Council

Members of Wilmington City Council frequently receive feedback from constituents about parking issues. City Council's Public Works and Transportation Subcommittee often discuss parking policy issues and the Department of Public Works, the Law Department, and the Finance Department all coordinate to help address parking problems and develop new ordinances and City Code updates, as necessary.

Wilmington Police Department

Officers with the Wilmington Police Department have the authority to ticket vehicles at any time, primarily for illegal parking in travel lanes. Officers are responsible for ticketing outside of PREOs normal work hours.

City Adjudication Officer

If a vehicle gets towed or booted, the owner has the right to an administrative hearing. Directions for appealing a parking violation ticket are written on the back of a ticket and on the City's website[8]. Violators must appeal parking tickets in writing within 21 days. The City Adjudication Officer rules on the initial ticket appeal, and the violator has the right to appeal that decision in court, if necessary.

[7] The WDCS defines Downtown Wilmington as I-95 to the west, Brandywine Creek to the north, Walnut Street to the east, and the Christina River to the South.
[8] http://wilmingtonlive.mobiusnm.com/residents/appealtickets

Off-Street Parking in Wilmington

Downtown Wilmington has a variety of off-street public parking lots and structures, managed by many different entities.

Downtown Visions, which manages Wilmington's Downtown Business Improvement District, maintains a comprehensive list and interactive map of off-street parking lots and structures for public consumption at http://www.downtownvisions.org/wilmington/parking. A screen-shot of this map is located below.

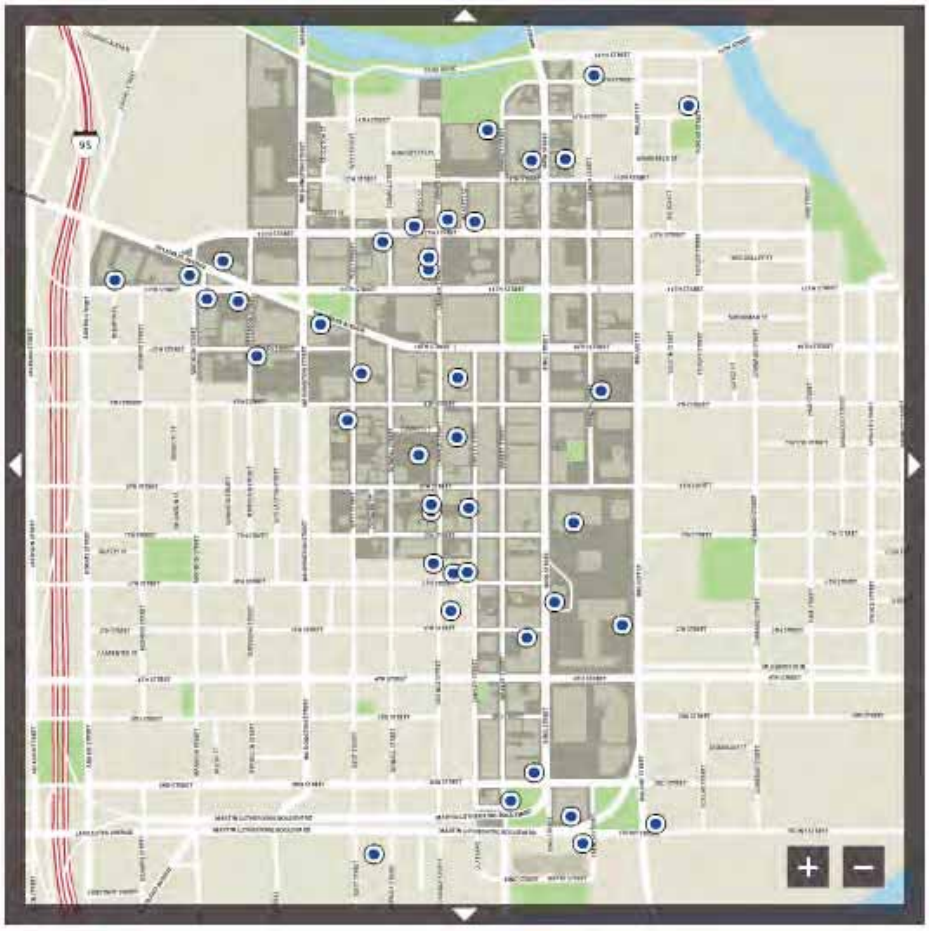


Exhibit 35: Downtown Visions Off-Street Parking Map

The City of Wilmington also currently manages a separate website called "In Wilmington", which also offers an interactive parking map: http://www.inwilmingtonde.us/parking/

There are two main parking management companies in Wilmington for public off-street parking. Please see Appendix G for a list of parking garages and surface lots:

- **Colonial Parking** is a private company headquartered in Wilmington, Delaware. Established in 1956, Colonial Parking currently manages 24 parking lots and 12 parking garages in downtown Wilmington.
- **Wilmington Parking Authority** (WPA) is a state authorized agency formed in 1951 to provide off-street parking for the public good. The Mayor of Wilmington appoints a five-member Board of Directors, and WPA staff carries out Board policies. WPA receives no financial support from City or State government; their expenses are covered entirely by parking revenue collected at their garages and lots. Currently, WPA manages 6 garages and 2 surface parking lots in Downtown Wilmington.

There are numerous other corporations and companies that operate their own private parking facilities within the downtown. At this time, there is no ongoing city program or department that is dedicated to coordinating policies with the private providers.

Challenges and Next Steps

Several issues present ongoing challenges related to parking and parking enforcement:

- **Training and Supervision of PREOs:** Training is necessary to maintain a consistent level of performance, and in-field supervision improves accuracy and adherence to policies and procedures.
- **Resident Education:** Most parking violations occur in the downtown. The most common parking violation is overtime parking. In residential permit areas, common violations include the failure to move vehicles for street cleaning, parking within 20 feet of a crosswalk, and parking within 3 feet of a driveway. The most common violations for delivery trucks operating in the downtown are overtime parking in a loading zone and parking in a travel lane. Ongoing education is necessary to remind people that the permit program only exempts permit holders from the one- and two-hour parking restrictions; all other parking regulations, including street-cleaning, continue to apply.
- **Definition of "Residence":** Some permit applicants own homes and/or rent in more than one location. If their drivers license and vehicle registration are tied to a property outside of Wilmington, they are not eligible for the parking permit program, even if they spend significant time living in the permit district.

- **Permit Fees:** Currently, there are no fees for the residential permit program, although there are significant administrative costs. A fee structure should be considered to cover costs associated with managing the program.
- **Parking Policy Coordination:** Currently, each department pursues specific goals related to their own aspect of the parking system, but there is no entity coordinating parking policy in a holistic way.
- **Comprehensive Information about Parking:** The City's website has a "parking page", accessible through a site search for "parking", to provide parking information for residents, businesses and visitors. This page includes links to the major parking providers' websites, which provide user-friendly information regarding their own parking sites. However, there is no comprehensive map of the providers' parking areas, and there are no links to Downtown Vision's parking map or InWilmington's parking map, which contain the most comprehensive parking information available for downtown visitors and tourists.

Summary

Overall efforts to improve parking management in Wilmington may consider reviewing and adjusting the size of residential permit parking zone districts, increasing administrative efficiency by adopting electronic administration and payment systems, conducting comparison research examining residential parking permit practices, policies, and fee structures in similar cities, improving street supervision of PREOs, and establishing a more comprehensive system to oversee parking policy.

A public parking commission or authority could address larger parking issues and long-term planning related to on-street and off-street parking within the downtown area and surrounding neighborhoods. Residents and businesses currently have to contact a variety of city staff or elected officials when they have a parking concern, due to the lack of a central venue for coordination. A more comprehensive approach to parking management is essential for promoting economic development activities within the downtown and the riverfront, and also contributes to quality of life for neighborhoods and the commercial districts.

APPENDIX A – WHAT IS WILMINGTON INITIATIVES?

History

As national transportation policy began its transition towards a more collaborative planning process, the City of Wilmington embarked on an Environmental Enhancement Plan in 1996 to develop streetscape concepts for downtown corridors. One of the most critical outcomes of this Plan was the implementation of a framework to facilitate a more efficient manner to fund, plan, design, and construct transportation improvements in the City. This led to a strong collaboration between the City of Wilmington, Delaware Department of Transportation (DelDOT), Delaware Transit Corporation (DTC, operating as DART First State), and Wilmington Area Planning Commission (WILMAPCO). This group, called Wilmington Initiatives, continues to thrive today and has resulted in the investment of tens of millions of dollars in sound transportation improvements and highly visible quality of life enhancements.

Wilmington Initiatives Today

The Wilmington Initiatives include projects designed to promote a balanced transportation system by incorporating improvements to all modes of circulation. Our aim is to enhance livability in downtown Wilmington and its adjacent neighborhoods by providing better connections between development, transportation, and public spaces. Wilmington Initiatives also strives to promote residential and commercial development in the City through these proposed environmental and transportation enhancements.

Wilmington Initiatives' Objectives

- provide a well-balanced system for local and regional access, which includes all modes of transportation, including walking, bicycling, transit, and private vehicles;
- promote economic development related to community objectives;
- improve the visual quality of the corridors for residents, workers, and visitors in keeping with community character;
- enhance safety for all modes of circulation and environmental quality within the corridors; and
- support coherent and viable neighborhoods in sync with other community goals.

Public Outreach Leader

Wilmington Initiatives projects invite public participation on a citywide basis and engage neighborhood leaders and residents in extensive discussions about neighborhood-level projects. In addition, our joint Wilmington Initiatives Partner Status and Management Committee meetings provide a monthly forum for our partner agencies to discuss recent inquiries from the public and to quickly determine solutions. Updates about Wilmington Initiatives can be found on WILMAPCO's website (http://www.wilmapco.org/wilmington-initiatives/), which allows us to inform key stakeholders and the public.

Committee Leadership

Wilmington Initiatives is made up of four committees that advance transportation projects in Wilmington. The ***Partner Status Committee*** represents the core group and contributes to the inter-agency coordination required to move transportation projects forward. The ***Management Committee*** addresses overall policy issues related to Wilmington Initiatives projects. Individuals on the ***Technical Committee*** represent agencies and organizations that have a role in the technical review of specific projects being implemented, including City agencies and departments such as public works, planning, emergency management, police, and fire, and DelDOT, DART, and WILMAPCO. The ***Steering Committee*** provides one of the many ways public input is generated for the Wilmington Initiatives projects. Representatives include leaders from our neighborhoods and business organizations.

APPENDIX B – DEFINITIONS

Common Themes: The study team analyzed comments gathered during the Listening Session and categorized them by common "themes". The WDCS includes seven common themes.

Cycle Track: A cycle track provides a buffer to separate cars and bicyclists. Often times, the cycle track can accommodate bicyclists traveling in two different directions. A buffer is provided by either a row of parked cars or another physical separation, such as a curb or narrow median, between the cycle lane and the vehicle travel lane.

Level of Service (LOS): Intersection LOS is a letter grade based on the average delay per vehicle due to the traffic control in place at an intersection with or without a signal. Letter grades range from A through F, with LOS A representing the best operating conditions (free flowing conditions with very little delay for motorists) and LOS F representing the worst (congested conditions with a breakdown in the flow of traffic).

Listening Tour: In order to gather stakeholder input about transportation issues in Downtown Wilmington, the study team conducted an extensive "listening tour" where stakeholders gathered in small groups or participated in interviews to share concerns and ideas. Study team members documented these conversations, which helped formulate the study's Common Themes and recommendations.

Signalized Intersection: A signalized intersection is where two or more road join or cross each other and a signal is present to control movement of vehicles, bicyclists, and/or pedestrians through the intersection.

Sweep: A sweep is a connector road that bisects a block to provide an alternate route of movement. Downtown Wilmington has two "sweeps". The "Market Street Sweep" is for vehicles traveling east on Martin Luther King, Jr. Boulevard, where the sweep connects vehicles to northbound King Street or westbound 2nd Street. The "Walnut Street Sweep" carries vehicle traveling eastbound on Martin Luther King, Jr. Boulevard/Front Street, to northbound Walnut Street.

Synchro: Synchro is a software application that determines intersection capacity.

Unsignalized Intersection: An unsignalized intersection is where two or more road join or cross each other and a signal is NOT present to control movement of vehicles, bicyclists, and/or pedestrians through the intersection.

VISUM: VISUM is a comprehensive software system used by transportation engineers and planners to model travel demand. It integrates all modes of transportation, including car, car passenger, truck, bus, train, pedestrians, and bicyclists, into one model.

APPENDIX C – METHODOLOGY & LEVEL OF SERVICE

Methodology

The Wilmington Downtown Circulation Study Model was developed using a combination of PTV's VISUM software and the Delaware Department of Transportation's Statewide Travel Demand Model, referred to as the Peninsula Model. The Peninsula Model is a statewide travel demand model that covers the Delaware and Maryland portions of the Delmarva Peninsula. The Peninsula Model is based on 908 traffic analysis zones (TAZs) that contain population and employment data for the base year and forecasted future years and a travel network that represents most of the roadways in the study area and existing rail and bus routes. It uses this information to predict travel behavior, congestion, passenger car volumes and transit ridership for the base (2005) and future (2030) years. The model is used for the region's long-range transportation planning and air quality conformity. Because the Peninsula Model is a large-scale travel demand model, a significant amount of detail was added in order to complete the analysis required for the Wilmington Circulation Study.

This was accomplished by extracting a portion of the model and disaggregating the model's 52 TAZs to a total of 560 TAZs and adding additional information on the study area's roadway network to represent more local road and traffic control detail at intersections. The population and employment data from the Peninsula Model were disaggregated based on the existing land cover data, zoning data, and aerial photography. The Peninsula Model's existing trip generation rates were used to generate the trip productions for Home-Based-Work (HBW), Home-Based-Shopping (HBS), Home-Based-Regional-Shopping (HBRSH), Home-Based-Recreation (HBR), Home-Based-Other (HBO), Journey-to-Work (JTW), and Non-Home-Based-Non-Work (NHBNW) trips based on the population and employment data. Because automobile trips to and from downtown Wilmington are more directly related to parking availability than specific building locations, the trip productions and attractions within downtown Wilmington were post-processed to begin and end at locations based upon parking availability and upon proximity of the available parking to the TAZs. Garage entrances and exits were identified and specifically coded into the model to use as traffic loading points. This process was used to generate trips to and from Wilmington in both the base and future years during the morning and afternoon peak three hour periods.

To convert the peak period models to detailed peak hour models that can be used directly in traffic operations analyses, the base year trip tables from the Peninsula Model were imported into

VISUM. The Peninsula Model trip tables were used as a seed table which was adjusted with using a fuzzy logic process, referred to as TFlowFuzzy, to calibrate the trip table to produce modeled turning movement projections that match the actual traffic counts collected at the study area intersections. Once the calibrated base year trip tables were developed, growth factors from the refined Peninsula Model trip table were estimated using the 2005 and 2030 models. These growth factors were then applied to the adjusted base year trip tables in order to develop future year trip tables, which could be used to evaluate various transportation scenarios for the study area. In most studies, the base and future year turning movement volumes would then be used to evaluate the traffic operations of each transportation scenario. However, because projections show slightly less traffic in downtown Wilmington in 2030 than exists today due to reductions in employment and population, the traffic operations analysis was conducted using only the higher existing traffic volumes.

To quantify traffic operations of each scenario, a capacity analysis was conducted using Synchro software. The Synchro model accounts for inputs such as turning movement volumes, lane arrangements, type of intersection control, traffic signal timing, etc. to estimate intersection capacity, delay, and level of service (LOS) in accordance with standard procedures outlined in the Transportation Research Board's (TRB's) Highway Capacity Manual. After importing the traffic volumes from VISUM, signal timings were optimized for each scenario, and LOS was summarized to evaluate traffic operations at each study area intersection and identify potential issues as described in the report.

Level of Service (LOS)

Intersection LOS is a letter grade based on the average delay per vehicle due to the traffic control in place at an intersection with or without a signal. Letter grades range from A through F, with LOS A representing the best operating conditions (free flowing conditions with very little delay for motorists) and LOS F representing the worst (congested conditions with a breakdown in the flow of traffic). Generally, an acceptable range of operations is defined as LOS C or better in rural areas and LOS D or better in urban areas. Typically, higher levels of delay are generally expected and accepted at signalized intersections, whereas motorist tolerance of delay at unsignalized intersections is typically lower.

LOS	Control Delay (Seconds)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤15
C	>20 and ≤ 35	> 15 and ≤25
D	> 35 and ≤ 55	> 25 and ≤35
E	> 55 and ≤ 80	> 35 and ≤50
F	> 80	> 50

APPENDIX D – PUBLIC OUTREACH

Invited Advisory Committee Members

Hon. James M. Baker, Mayor, City of Wilmington

Hon. Norman Griffiths, City Council President

Hon. Michael Brown, Sr., City Council, At-Large

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Dawn Thompson, City of Wilmington, Mayor's Office

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Jeff Flynn, City of Wilmington, Office of Economic Development

Alfred Lance, City of Wilmington, Office of Economic Development

Chief Michael Szczerba, City of Wilmington, Police Department

Cathie Field Lloyd, Christina Landing Homeowners Association

Margi Prueitt, Committee of 100

Mae Caldwell, Compton Park Homeowners Association

Sandi Thompson, Compton Towne Concerned Neighbors Association

David Dooley, DART

Cathy Smith, DART

Ken Potts, DART

Julie Theyerl, DART

Stephen Kingsberry, DART, Executive Director

Pam Sapko, Delaware Center for Horticulture

Mark Chura, Delaware Greenways

Joan Hoge, Delaware Historical Society

Bill Sullivan, Delaware Hotel/Lodging Association

Rina Marks, Delaware State Bar Association

Larry Miller, Delaware Technical & Community College (DelTech)

Ray Petrucci, DelDOT

Rich Palmer, DelDOT

Tom Meyer, DelDOT Traffic

Enid Wallace-Sims, Delmarva Power, Public Affairs Manager

Tom Posatko, Delmarva Rail Passenger Association

Julia Han, Downtown Business Association/Sports Connection

Marty Hageman, Downtown Visions

Robert H. Martin, Eastside Citizen, Inc.

Beverly Bell, Eastside Residents in Action Civic Association

Steve Kuzmicki, Greater Brandywine Village

Sarah Willoughby, Greater Wilmington Convention and Visitors Bureau

Clarence Wright, Main Street Wilmington

Terry Toliver, McCaulley Court Homeowners Association

Joel Stango, Midtown Brandywine Neighbors Association

Frauline Trotter, 9th Street Block Club

David Scott, Preservation Delaware

Raymond Marin, Quaker Hill Historic Preservation Foundation

Cassandra Marshall, Quaker Hill Neighborhood Association

Adlene Clark, Quaker Hill Place Residents Association

Verna Johnson, River Common Civic Association

Mike Purzycki, Riverfront Development Corporation

Lin Day, Ship Tavern Mews Civic Group

Dee Fell, Shipley Run II Association

Chad Tolman, Sierra Club

Jay Cooperson, Sierra Club

Marvin Thomas, Southbridge Civic Association

Reverend Thomas Laymon, Sunday Breakfast Mission

Rochelle Grimes, Thomas Herlihy Jr. Apartments

Bill Osborne, TMA Delaware

Blair Woodring, Trinity Vicinity Neighborhood Association

Barbara Washam, Upper Eastside Neighborhood Association

Sarah Green, Urban Bike Project of Wilmington, Inc.

Karen Ingram, West Village Neighborhood Association

Tigist Zegeye, WILMAPCO

Dave Gula, WILMAPCO

Denise Davis, Wilmington Economic Development Corporation

Jim Eversmann, Wilmington Initiatives

Stan Soja, Wilmington Parking Authority

Carrie Gray, Wilmington Renaissance Corporation

Vernon Green, Woodlawn Trustees, Inc.

Summary of Advisory Committee Meetings and Public Workshops

Meeting	Date	Number of attendees	Key agenda items
Advisory Committee Meeting #1	October 1, 2008	15	• Present project scope and schedule • Conduct "listening tour" interviews of attendees • Answer committee questions
Advisory Committee Meeting #2	November 18, 2008	22	• Review project status • Present preliminary results of "listening tour" and get committee input • Answer committee questions
Public Workshop #1	December 2, 2008	53	• Introduce the study purpose and process • Present draft "common themes" for consideration • Allow attendees to rank and comment on the "common themes" • Allow attendees to provide additional comments to supplement the "listening tour"
Advisory Committee Meeting #3	March 3, 2009	20	• Present existing and future transportation issues as identified by the study team • Obtain committee feedback regarding those issues in preparation for the March 19 public workshop
Public Workshop #2	March 19, 2009	45	• Present existing and future transportation issues as identified by the study team • Obtain public feedback regarding those issues so assist in development of study recommendations
Advisory Committee Meeting #4	March 25, 2010	18	• Review transit center evaluation and recommendations • Discuss draft street recommendations
Public Workshop #3	April 14, 2010	27	• Present draft recommendations as identified by the study team, both for transit and streets • Obtain public feedback regarding those recommendations

APPENDIX E – JOINT DEVELOPMENT STRATEGY

Overview

Joint development is a blend of public and private resources to achieve a project that will benefit both sectors. In the transportation field, joint development usually refers to private real estate development that is physically and functionally linked to transportation services and facilities and contributes to the economic viability of transit. Often, in exchange for the right to develop at a transit facility, a private developer shares a portion of the cost of developing and/or operating the facility. Alternatively, the developer could make payments to support the transit facility, either in the form of leases or sharing development-generated revenue with the transit facility sponsor. Joint development projects benefit both the public and private sectors. The public sector benefits that can be seen from joint development near transportation facilities include:

- Achievement of downtown development objectives
- Enhanced or improved environment around the transit facility due to amenities provided by the private sector
- Cost sharing
- Improved intermodal connections
- Mobility for the transit dependent
- Energy conservation through automobile substitution, higher densities and decreasing distance between residence and work place
- Enhanced ridership
- Revenue streams from the sale or lease of public real estate or "value capture"

Private sector partners also benefit from joint development. Their benefits can include:

- Reduced parking
- Cost sharing
- Opportunity to seize new markets for various types of land use created by the connection to the transit facility
- Opportunity to capitalize on improved circulation and transit amenities in the project

Typically local governments initiate joint development projects. This is usually because of a defined public need for a new transit facility or services and/or the land is owned by the public sector. In most cases, the sponsoring public entity "packages" the joint development opportunity and solicits private sector interest and eventually extends into a memorandum of understanding/joint development agreement.

The typical steps leading to a joint development project often include:

- Phase I: Public Policymaking and Planning
  - Identifying joint development opportunities
  - Defining joint development goals and policies
  - Coordinating with other public agencies
  - Building public support
- Phase II: Developing a Marketable Project
  - Preparing a project budget
  - Assembling a project team
  - Preparing a market analysis and concept plan
  - Resolving public issues related to intergovernmental coordination, special studies, legal authority, capital improvements, regulatory changes, additional land assembly, accessibility between the transit facility and the private development, funding and financing, public information

After completion of the above steps, the local sponsors should have formulated a market-based development plan that is attractive to prospective developers. The final steps in completing a joint development project typically include:

- Phase III: Dealing with Developers
  - Identifying interested developers
  - Selecting a developer
  - Specifying the role of a developer
  - Adhering to commitments and schedules
  - Negotiating an agreement

Strategies

The partner agencies have a unique opportunity to improve transit services and facilities and spur economic growth in downtown Wilmington. The bus transfer needs and parking associated with the existing sites open a potential envelope for development. A joint development project can facilitate development of this opportunity. The joint development partner(s) can be private entities, such as a bank or a residential developer, or a public entity such as the federal government, State of Delaware, a college or university, or even the City itself using an intergovernmental agreement.

There are initial considerations to be taken before solicitation of interest from the development community. These considerations include financing the construction, determining the leasable value of the project and potential revenue streams, and governance of the facility. This section discusses these topics and provides a brief discussion of the solicitation process.

Federal Transit Administration Section 5309 Grant

A major reason public agencies look to joint development agreements is to identify methods to help finance the construction and operations of the transit facility. The FTA administers grants to help sponsoring agencies fund a portion of the construction costs of the transit facility.

The Section 5309 Bus and Bus Related Facilities Program provides capital assistance. The types of eligible projects that are applicable to facilities include:

- Facilities that support transit operations, such as maintenance garages and administrative buildings
- Facilities that provide passenger amenities and extend into the built environment, such as bus terminals, stations, shelters, and park-and-ride lots as well as intermodal facilities that include both transit and intercity bus services
- Minimum useful life of 40 to 50 years
- Joint development allowed and encouraged, particularly to physically, functionally, and financially support transit. Portions of costs related to joint development are eligible capital expenses (see *Federal Register* notice, 72 FR 5788, February 7, 2007). This does not include the cost of non-transit-revenue-generating space.

The federal share of an eligible project is up to 80 percent; however, a local match of 50 percent is typical. Some examples of local match that may be used for the local share include State or local appropriations, dedicated tax revenues, private donations, toll revenue credits, and net income generated by joint development advertising and concessions.

Leasing Space/Revenue Potential

As discussed previously, one of the benefits of public/private partnership is the revenue stream created by leasing space. Below are selected reasons for pursuing joint development.

- Joint development can accomplish development goals
    - Site acquisition
    - Relocation needs
    - Site development costs
    - Removal of environmental hazards
    - Additional capital cost of accommodating transit facility air rights development
    - Passenger amenities
    - Incidental retail
    - Public/private sector cost sharing
    - Private lease revenue to support transit facility costs

- Primary FTA criteria for joint development are physical and functional relationship to transit, economic contribution to transit, highest and best transit use, and maintenance of long-term control for transit use

Using the development opportunities shown in the Evaluation section, the project sponsor can begin to project the potential revenues that can be generated. Air rights leases are typically tied to the FAR foot values. The landowner collects a percentage of the FAR foot value in land lease revenues and the annual lease is often reflective of annual payment (generally between 6 and 8 percent of value). Given these factors and current downtown Wilmington land values, each square foot of air rights development has the potential to generate about one dollar per year in air rights leases.

The facility will also generate revenues through leasing or operating the parking garage. The construction of the parking garage could involve a public/private partnership for a number of reasons. The parking spaces would serve a public purpose of encouraging the revitalization of downtown. The transit center could reduce the number of parking spaces required, induce additional ridership, and optimize public/private potential return, as well as addressing economic, environmental, quality of life, and smart growth objectives.

Governance

Who will lead the implementation of the transit center plan, own the facility, make policies, manage it, fund it, operate it, and maintain it? While some elements of the transit center will be owned, managed and operated by individual entities, it is likely that there will be a need for shared funding, management, and operation of some elements. At this point, it is not practical to recommend a specific type of governance for this project, so this section describes an overview of the options for governance structure.

- Single existing entity/agency: An existing public entity or agency is the governing entity. Other space users simply lease space from the ownership entity to use the facilities for their operations.
- Coordination among several existing entities: Different entities own and govern the component facilities that comprise the transit center, but they coordinate their efforts through the establishment of interagency agreements.
- New special purpose entity: A new organization is created for the purpose of the governance of the project. The mission, authority, powers, and responsibilities of that organization are defined to suit the project.
- Existing private developer/company: A private developer/company serves as the governing entity for a project and then leases space or grants easements to accommodate public components.

Solicitation Process

Throughout the initial period, the partnership should determine the governance of the facility, secure funding, identify the partnership goals for the facility as to expected returns, perform a market analysis, initiate public involvement, and prepare a flexible development pro forma. Once these steps are complete, the partnership or lead agency will begin the development solicitation process. In order to generate strong proposals, the lead agency must show financial commitment, a market for the development, and a willingness to negotiate. The solicitation process should start with a Request for Qualifications (RFQ), and then follow with a Request for Proposals (RFP) from selected developers.

The intention of the RFQ is to encourage submissions and input from the development community. Therefore, it should be designed to be clear, simple, and graphically compelling. Incentives to respond should be provided (i.e., priority opportunity to be selected), and the submission should require a simple, quick, low-cost response. The RFQ should be designed to assure that the developer does not tie up the opportunity site by requiring the developer to exhibit progress satisfactory to the partnership. The RFP will be the opportunity for shortlisted developers to provide detailed concept drawings and schedules; interviews will be conducted. Upon selection of a developer(s), the partnership will enter into a negotiation period where memoranda of understanding and joint development agreements will be signed.

APPENDIX F – COMPLETE STREETS

The relative underuse of most downtown streets by motor vehicles, even during peak hours, indicates potential opportunities to reassign travel lane space for other purposes such as parking, landscaping, walking, or bicycling. This conclusion is consistent with comments requesting improved sidewalks, streetscapes, and pedestrian crossing opportunities throughout the downtown.

The movement of repurposing street space to provide a balance among all street users is known as "complete streets". On April 24, 2009, Governor Jack A. Markell signed Executive Order #6, Creating a Complete Streets Policy. In this Executive Order, it is declared "the Delaware Department of Transportation ("DelDOT") shall enhance its multi-modal initiative by creating a Complete Streets Policy that will promote safe access for all users, including pedestrians, bicyclists, motorists and bus riders of all ages to be able to safely move along and across the streets of Delaware." The following streets, in alphabetic order, are maintained by the State; limits shown include the downtown Wilmington study area only:

A. 2nd Street (between Jackson and Walnut Streets)
B. 4th Street (between Jackson and Walnut Streets)
C. 11th Street (between Adams and Walnut Streets)
D. 12th Street (between Delaware Avenue and Walnut Street)
E. Delaware Avenue (between Jackson and 11th Streets)
F. King Street (entire length)
G. Lancaster Avenue / Martin Luther King, Jr. Boulevard (continuous through Walnut Street)
H. Maryland Avenue (between Jackson Street and Martin Luther King, Jr. Boulevard)
I. S. Market Street (between the Christina River and Martin Luther King, Jr. Boulevard)
J. Walnut Street (between the Christina River and 16th Street)
K. Washington Street (between Martin Luther King, Jr. Boulevard and the Brandywine Creek)

Of all the areas of concern noted in the Chapter 3 of the report, only N. Market Street and Orange Street are not State-maintained roads.

To quantify alternative opportunities for reconfiguring the public right of way, the study team completed a potential lane reduction analysis to determine the minimum number of lanes needed at each intersection approach to maintain acceptable peak hour levels of service (LOS D or better). In conjunction with this assessment, the study team conducted a comprehensive signal optimization of downtown corridors.

As a result of the analysis, the following lane configurations were found to function at acceptable levels of service during peak hours. While not considered a recommendation of the WDCS, some

results of the analysis provide an indication of what could be considered when developing alternatives:

A. **2nd Street:** two lanes without turn lanes from Walnut Street through Jackson Street
B. **4th Street:** one lane in each direction plus a center left-turn lane from Adams Street through King Street
C. **11th Street:** two lanes without turn lanes from approaching West Street to Walnut Street
D. **12th Street:** two lanes without turn lanes from Walnut Street to Tatnall Street
E. **12th Street and westbound Delaware Avenue:** three lanes without turn lanes from Tatnall Street to Adams Street
F. **Washington Street:** one lane in each direction, plus a center left-turn lane from north of 12th Street to north of 14th Street
G. **King Street:** two lanes without turn lanes from 15th Street to 5th Street
H. **Walnut Street:** three through lanes and intermittent left-turn lanes from 4th Street through 9th Street; two lanes without turn lanes from 9th Street through 16th Street

Maps below illustrate peak hour levels of service incorporating both signal retiming and lane reductions. All intersections in the study area are expected to function at an acceptable LOS with only three exceptions, listed below:

- **9th and Adams Streets:** This intersection is expected to operate at LOS F in both the AM and PM peak hours regardless of signal timing. Extending peak hour cycle lengths at the intersection (and adjacent intersections for coordination purposes) would reduce peak hour delays. However, doing so would likely extend peak hour queues on one or more intersection approaches. Queues on the I-95 off-ramp approach to this intersection already adversely affect freeway operations, so a detailed operational analysis would be needed to quantify impacts of signal timing changes.
- **Delaware Avenue and Adams Street:** Although reducing the westbound Delaware Avenue approach to this intersection to three lanes would benefit bicyclists and pedestrians, it is expected to cause the intersection to continue to operate at level of service F during the PM peak hour.
- **Delaware Avenue and 11th and Jefferson Streets:** This intersection is expected to operate at LOS E in the AM peak hour. The traffic analysis indicates 57 seconds of peak hour delay, which barely exceeds the 55-second level of service D threshold. If the City determines that this relatively good LOS E is unacceptable, lengthening the AM peak hour cycle length could be considered to reduce delay.

AM peak hour levels of service with signal retiming and lane reductions.

PM peak hour levels of service with signal retiming and lane reductions.

Process

The process of planning and designing a complete street requires a balance among the users of the street, some of which may compete with each other. For this reason there is no commonly accepted guideline for exactly how a complete street should be designed. Rather, a process should be followed that evaluates alternatives based on how they meet community goals. This type of process is known as Context Sensitive Solutions (CSS) and has been advanced by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and other leading organizations as a way to ensure that transportation projects enrich the communities they serve.

The public outreach process for the WDCS and current practices in community-based transportation design provide some general concepts that should be considered as individual corridor studies are conducted in downtown Wilmington. Some of these concepts include, in no particular order:

A. Designing streets as public spaces, not just transportation corridors
B. Prioritizing pedestrians, both along sidewalks and across intersections
C. Enhancing how adjacent buildings interact with the street through façade design and setbacks
D. Providing a variety of transportation choices, both for modes and routes
E. Accommodating all users of the transportation system regardless of age, economic class, or level of ability
F. Using transportation design to enhance economic development opportunities

Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, published by the Institute of Transportation Engineers in 2010, identifies the process to further evaluate corridors:

- **Stage 1: Review or develop an area transportation plan.** The Wilmington Downtown Circulation Study constitutes this plan.
- **Stage 2: Understand community vision for context and thoroughfare.** The vision established by the public outreach process for this study provides an excellent foundation for this step. However, more specific visioning is recommended on a corridor-by-corridor basis to obtain the input of stakeholders specific to each corridor.
- **Stage 3: Identify compatible thoroughfare types and context zones.** According to *Designing Walkable Urban Thoroughfares*, "context zones describe the physical form and character of a place. This includes the mass or intensity of development within a neighborhood or along a thoroughfare." Context zones, or transects as they are often called, were developed by the Congress for the New Urbanism (CNU) as a way to classify types of urban development. The table below illustrates characteristics of two types of context zones found in downtown Wilmington.

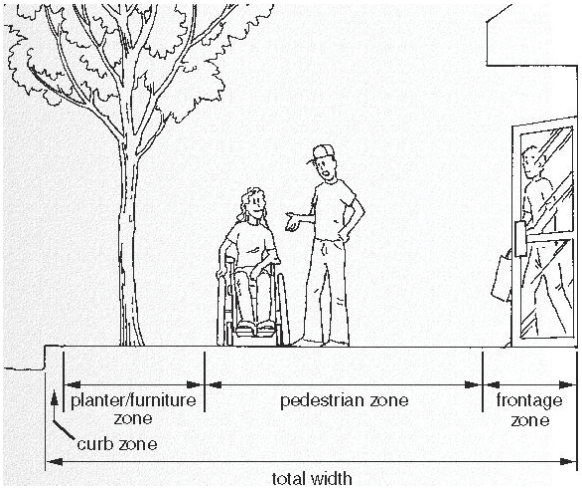
- **Stage 4: Develop and test the initial thoroughfare concept.** "In this stage, a multidisciplinary team uses the design parameters identified by the context zone/thoroughfare type combination selected in stage 3 ... to determine the basic elements of the thoroughfare that affect its width, including on-street parking, bicycle facilities, number and width of travel lanes, median and general configuration of the streetside."
- **Stage 5: Develop a detailed thoroughfare design.** This step forms the bridge between corridor-wide planning and the design process.

Context zone characteristics. (Source: *Designing Walkable Urban Thoroughfares*, page 49.)

Context Zone	Distinguishing Characteristics	General Character	Building Placement	Frontage Types	Typical Building Height	Type of Public Open Space	Transit (Where Provided)
C-5 Urban Center	Attached housing types such as townhouses and apartments mixed with retail, workplace and civic activities at the community or subregional scale.	Predominantly attached buildings, landscaping within the public right of way, substantial pedestrian activity	Small or no setbacks, buildings oriented to street with placement and character defining a street wall	Stoops, dooryards, storefronts and arcaded walkways	3 to 5 story with some variation	Parks, plazas and squares, boulevard median landscaping	Local bus; limited stop rapid transit or bus rapid transit; fixed-guideway transit
C-6 Urban Core	Highest-intensity areas in subregion or region, with high-density residential and workplace uses, entertainment, civic and cultural uses	Attached buildings forming sense of enclosure and continuous street wall landscaping within the public right of way, highest pedestrian and transit activity	Small or no setbacks, building oriented to street, placed at front property line	Stoops, dooryards, forecourts, storefronts and arcaded walkways	4+ story with a few shorter buildings	Parks, plazas and squares, boulevard median landscaping	Local bus; limited stop rapid transit or bus rapid transit; fixed-guideway transit

Design Guidelines

Choosing and applying appropriate design criteria and guidelines for complete streets requires an in-depth understanding for the reasons behind those criteria and current research on how they impact safety, mobility, and quality of life. It is beyond the scope of the WDCS to specify individual design parameters for each of the primary corridors in downtown Wilmington; however, it is appropriate to outline some of the guidelines that are available to planners and designers of urban streets to help shape future analysis of these corridors.



Sidewalk zones. (Source: *Designing Sidewalks and Trails for Access Part 2: Best Practices Design Guide*, U.S. Department of Transportation.)

- **Sidewalk zones:** As shown in the illustration, urban sidewalks are typically divided into four zones based on the different functions of a sidewalk. Generous widths are appropriate to ensure vital downtown streets function more than just transportation arteries. In general, a 12-foot width is the minimum to ensure all zones are adequately served. Greater sidewalk widths will provide more opportunities to provide enhanced amenities such as trees, street furniture, and wider pedestrian zones to foster interaction.
- **Travel and parking lane widths:** The City of Wilmington generally accepts 11-foot travel and parking lanes in downtown Wilmington; however, each segment of the road should be analyzed further to determine the appropriate travel and parking lane width.
- **Bulb-outs:** Where on-street parking is present, bulb-outs provide opportunities to further improve the pedestrian realm. They are particularly useful at intersections, where they shorten the pedestrian crossing distance. Because this application not only reduces the amount of time a pedestrian spends in the traveled way, it also shortens the time needed for safe pedestrian crossing. All modes of travel benefit. Bulb-outs at both intersections and midblock locations can be used to enlarge the planter/furniture zone, improving landscaping or providing enhanced seating areas.

Bulb-out in Downtown Wilmington.

- **Medians:** Medians are typically used to separate the directions of travel on two-way streets. They provide positive guidance for drivers to reduce crashes, allow for pedestrian refuge, and can enhance the streetscape when planted. The medians in the 800 block of Delaware Avenue and along most of Martin Luther King, Jr. Boulevard are good examples of how this treatment can provide all three benefits.
- **Bicycle accommodations:** On a complete street, bicycles are typically accommodated through the use of dedicated bike lanes or wide outside lanes for vehicle and bike sharing. As bicycling enjoys resurgence in the United States, new types of treatments are being evaluated and recommended.[9] Where suitable, bike lanes can be provided by appropriately narrowing travel lanes. However, under many circumstances shared lane markings, or "sharrows," are an appropriate alternative to bike lanes for urban streets. Sharrows are particularly appropriate for closing gaps between street segments that have bike lanes, on

9 The AASHTO *Guide for the Development of Bicycle Facilities* was published in 1999 and so does not include many potential design treatments, including the shared lane markings (sharrows) included in the 2009 *Manual on Uniform Traffic Control Devices*. Although currently in draft form, the AASHTO *Guide to the Development of Bikeways* should be available to guide the selection and design of bicycle facilities as the corridor studies are implemented.

bike boulevards, and along streets (especially downhill streets) where bicyclists can reasonably travel at about the same speed as motor vehicles. They may be installed in the center of standard-width lanes adjacent to on-street parking, or in wide outside lanes without on-street parking for bicyclist positioning.

- **Peak hour level of service:** In many downtowns, particularly those dominated by office space such as downtown Wilmington, daily traffic flows exhibit marked peaks. When the transportation system is designed to accommodate two peak hours a day, which is the traditional traffic engineering approach, many streets stand largely empty during the 158 off-peak hours each week. An increasing number of jurisdictions are departing from this traditional peak hour analysis method, accepting slightly worse peak hour levels of service so that street space may be assigned to other uses.

Thoroughfare Design Parameters for Walkable Mixed–Use Areas									
	General Urban (C–4)			Urban Center/Core (C–5/6)					
	Commercial			Residential			Commercial		
	Boulevard	Avenue	Street	Boulevard	Avenue	Street	Boulevard	Avenue	Street
Traveled Way									
Target Speed (mph)	25–35	25–30 [4]	25	25–35	25–30	25	25–35	25–30 [4]	25
Number of Through Lanes	4–6	2–4	2–4	4–6	2–4	2–4	4–6	2–4	2–4
Lane Width	10–12 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.
Parallel On-Street Parking Width	8'	7–8 ft.	7–8 ft.	7 ft.	7 ft.	7 ft.	8 ft.	8 ft.	7–8 ft.
Min. Combined Parking/Bike Lane Width	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.
Horizontal Radius (per AASHTO)	200–510 ft.	200–330 ft.	200 ft.	200–510 ft.	200–330 ft.	200 ft.	200–510 ft.	200–330 ft.	200 ft.
Vertical Alignment	Use AASHTO minimums as a target, but consider combinations of horizontal and vertical per AASHTO Green Book.								
Medians	4–18 ft.	Optional 4–18 ft.	None	4–18 ft.	Optional 4–16 ft.	None	4–18 ft.	Optional 4–18 ft.	None
Bike Lanes (min./preferred width)	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.
Access Management	High	Low–Moderate	Low–Moderate	Moderate	Low–Moderate	Low–Moderate	High	Low–Moderate	Low–Moderate
Typical Traffic Volume Range (ADT)	15,000–50,000	1,500–30,000	1,000–15,000	15,000–30,000	1,500–20,000	500–5,000	15,000–40,000	1,500–30,000	1,000–15,000

Traveled way design parameters for walkable urban thoroughfares. (Source: *Designing Walkable Urban Thoroughfares*, Page 71.)

Other Lane Width Resources

Potts, I.B., Harwood, D.W., & Richard, K.R. *Relationship of lane width to safety for urban and suburban arterials.* Geometric design and the effects on traffic operations 2007, 63-82. Washington, DC: Transportation Research Board.

Petritsch, T.A. *The Truth About Lane Widths.* Pedestrian and Bicycle Information Center.

AASHTO *Highway Safety Manual.* 2010.

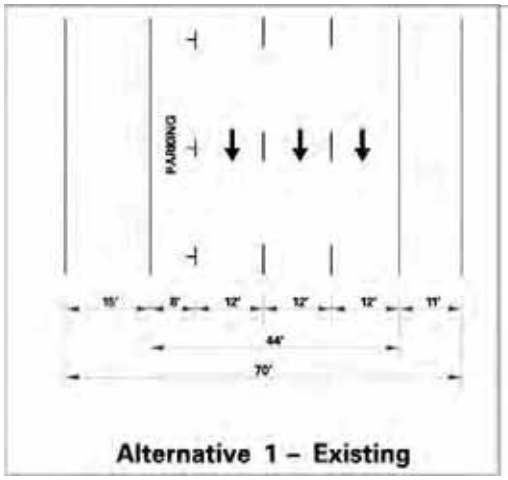
Example Alternatives

Using the process and design guidelines illustrated above, the study team sketched a number of alternatives to show how various modes of travel might be accommodated at six key locations in downtown Wilmington. These alternatives were presented as simple cross sections to spark discussion and to demonstrate the tradeoffs needed to ensure all transportation system users are accommodated within limited space. Options like these should be considered as corridors move into a future alternatives analysis phase.

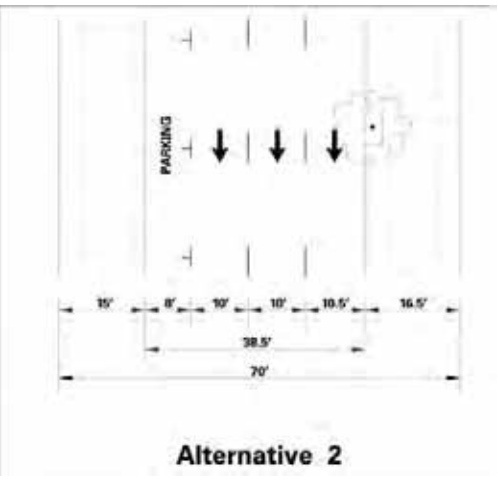
1. King Street between 4th and 8th Streets

During the listening tour, Mayor Baker identified King Street as an area in need of improvement. The Mayor expressed concern about the width of the road, vehicle speeds, and difficulty in pedestrian crossings.

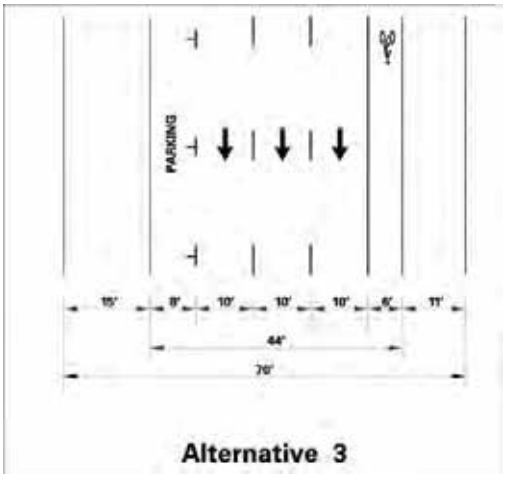
- **Alternative 1,** the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternative 2** improves pedestrian and streetscape opportunities by widening the east sidewalk (adjacent to the New Castle Courthouse, a high pedestrian generator). Moving the curb also shortens the crosswalks across King Street by about five feet.
- **Alternative 3** focuses on bicyclists by narrowing the travel lanes to provide a bike lane. In this case the bike lane is shown on the east side of the street so that bicyclists can avoid the "door zone," an area adjacent to parked cars where car doors may be opened into the bicyclists' path. A west side bike lane could be considered instead with the understanding that it places bicyclists in the door zone.



Alternative 1 – Existing



Alternative 2

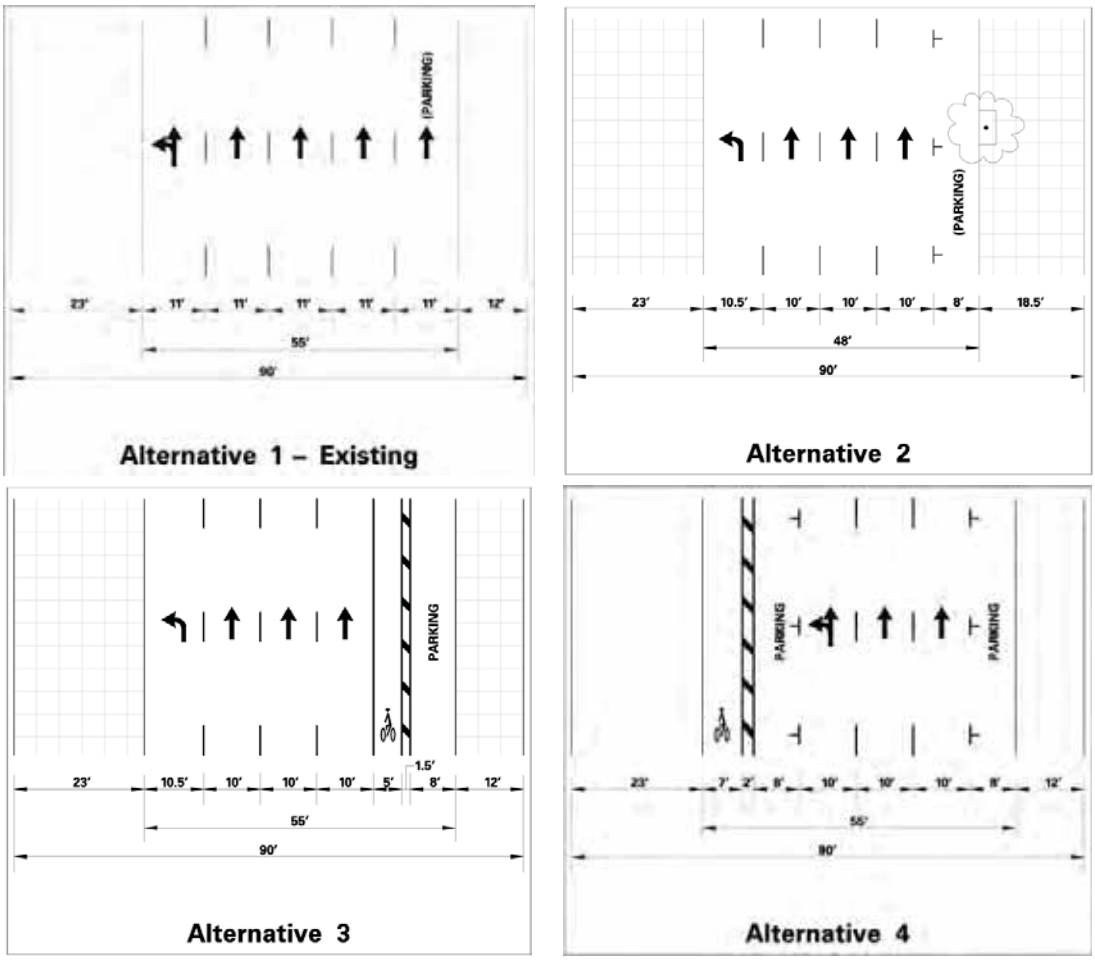


Alternative 3

2. Walnut Street between 4th and 9th Streets

This is the widest one-way street in downtown Wilmington, providing the most opportunity to enhance non-motorized modes while still maintaining acceptable vehicular level of service. Traffic analysis shows that three travel lanes are sufficient at each signal between 5th and 9th Streets.

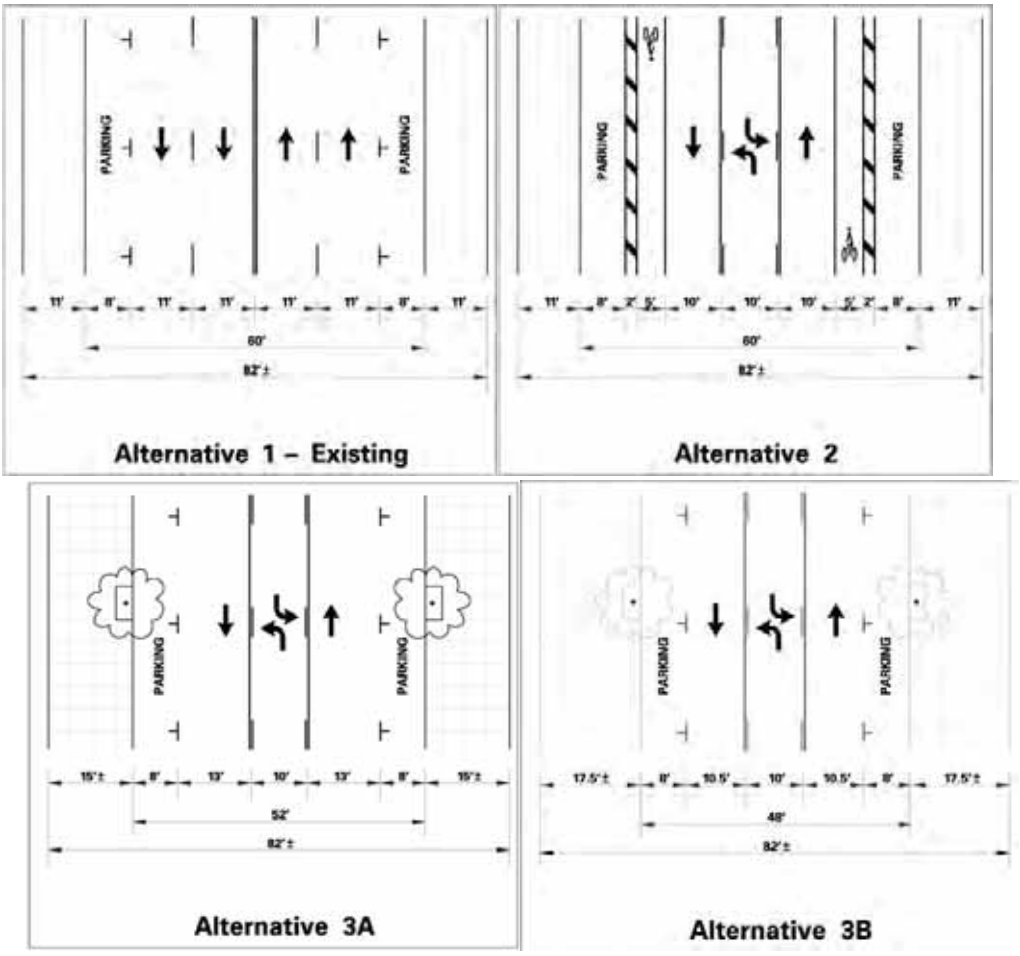
- **Alternative 1**, the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternative 2** improves pedestrian and streetscape opportunities by widening the east sidewalk. Moving the curb also shortens the crosswalks across Walnut Street by seven feet.
- **Alternative 3** focuses on bicycling and parking by narrowing the travel lanes to provide a buffered bike lane adjacent to full-time on-street parking. Bulb-outs can be provided in the parking lane at intersections to shorten the distance for pedestrians crossing Walnut Street.
- **Alternative 4** further increases parking by converting a travel lane to parking. The buffered bike lane could be provided on either side of the street. Although the traffic analysis indicates that a dedicated left-turn lane is not needed, some stakeholders have expressed an interest in maintaining that lane so that cars turning left into parking garages can leave the through lanes.



3. 4th Street between Adams and King Streets

Traffic analysis indicates that 4th Street in this area can be reconfigured using a "road diet," or a conversion from four to three lanes with a center left-turn lane. Additional analysis is needed to determine the applicability of a road diet in a neighborhood with well-used on-street parking, as stakeholders and field observations have indicated that double parking may be a concern.

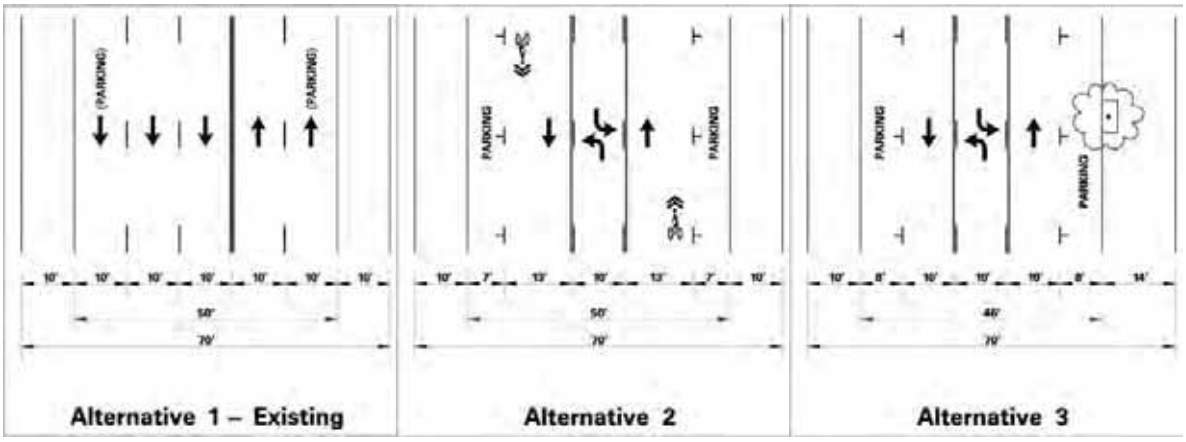
- **Alternative 1**, the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternative 2** provides the best bicycle accommodations, including buffered bike lanes. Existing curb lines are maintained.
- **Alternative 3A** focuses on pedestrians while maintaining some accommodations for bikes through the use of wide outside lanes.
- **Alternative 3B** provides the widest possible sidewalks while maintaining on-street parking; however bicycle accommodations are not included in this alternative.

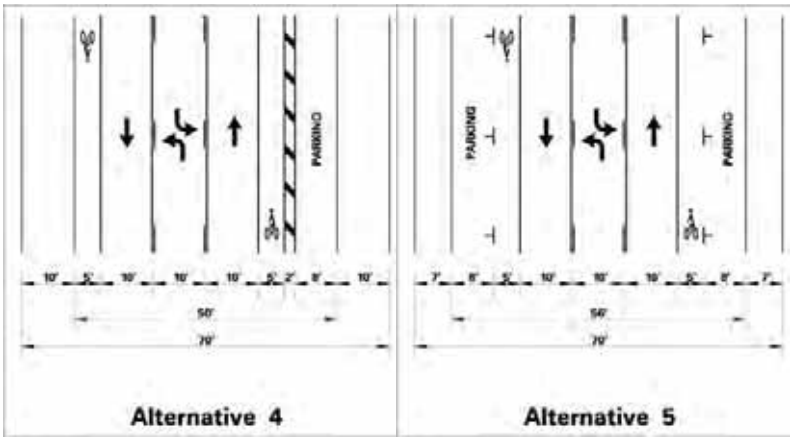


4. Washington Street between 12th and 14th Streets

This area presents more challenges to accommodate all modes in a tightly constrained space.

- **Alternative 1,** the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternative 2** balances parking, travel lanes, and bike accommodations. There is no room for bicycle lanes, so sharrows are used.
- **Alternative 3** focuses on pedestrians, widening the east side sidewalk without providing bicycle accommodations.
- **Alternative 4** focuses on bike lanes, where on-street parking is removed on one side in order to fit two 5-foot bike lanes.
- **Alternative 5** also focuses on bike lanes, where both sidewalks are narrowed in order to fit in two 5-foot bike lanes.

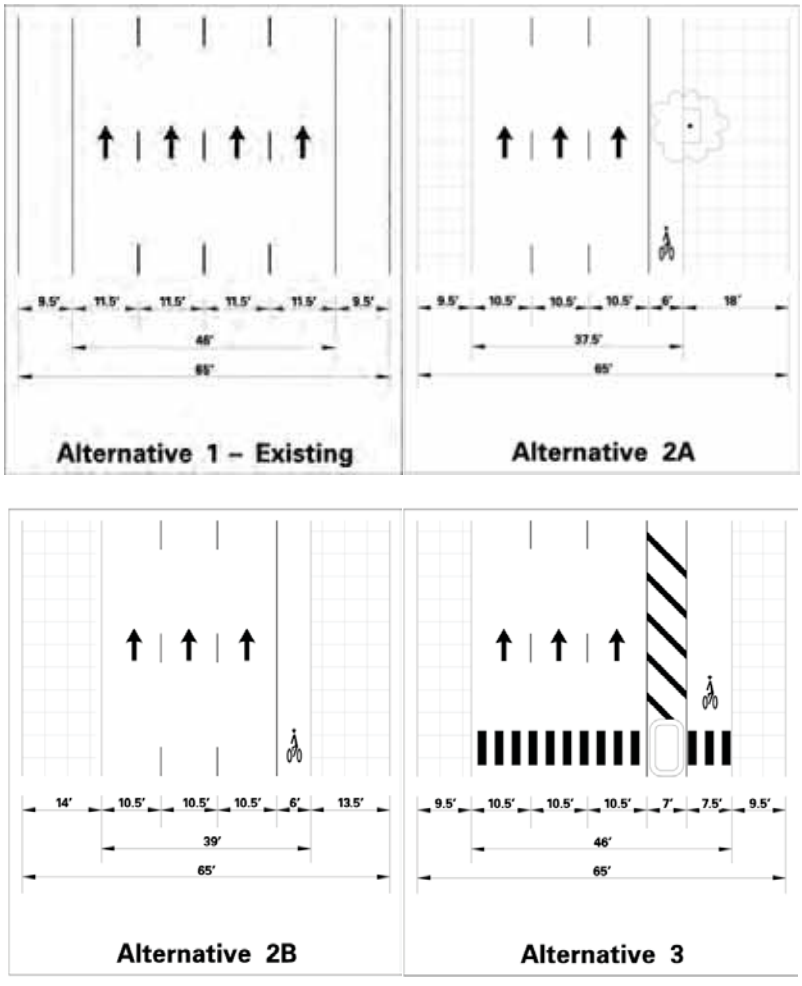




5. 12th Street between Walnut and Washington Streets

This example illustrates the tradeoffs inherent in balancing modes. Traffic analysis indicates that a three-lane cross section is sufficient for peak-hour traffic.

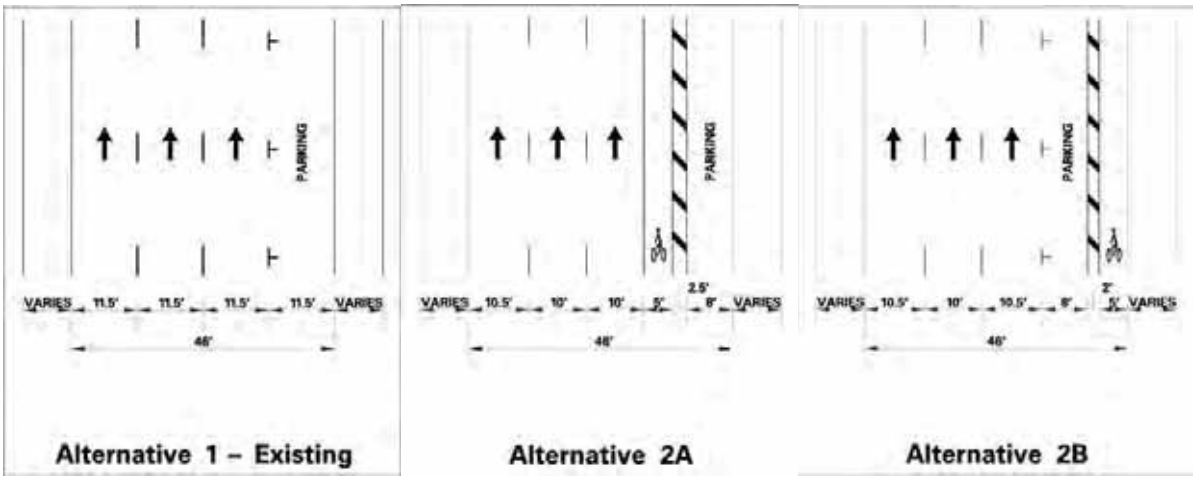
- **Alternative 1,** the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternatives 2A** focus on pedestrians. Three travel lanes are provided to maintain acceptable level of service, as well as a bike lane. (Although off-peak traffic analysis was not part of the study scope, it may be possible to convert one of the travel lanes to on-street parking during off-peak periods.) Sidewalk could be widened on one side.
- **Alternative 2B** also focuses on pedestrians. Travels lanes are similar to 2A; however, the extra space is split between widening both sides of the sidewalk.
- **Alternative 3** focuses on bicyclists. A wide buffered bike lane is provided while maintaining three lanes for vehicular traffic. The bike lane buffer also enhanced pedestrian crossings by providing a pedestrian refuge island at each intersection.



6. 11th Street between Tatnall and Market Streets

Existing travel lanes are sufficiently wide that the existing curb-to-curb width can be simply restriped for a buffered bicycle lane, either to the left or to the right of parked cars.

- **Alternative 1,** the existing condition, focuses on vehicular movement while maintaining existing sidewalks and providing no bicycle accommodations.
- **Alternatives 2A** focuses on bicycle accommodations to the left of parked cars. Including buffered bike lanes, while existing curb lines are maintained.
- **Alternatives 2B** also focuses on bicycle accommodations to the right of parked cars. Including buffered bike lanes, while existing curb lines are maintained.



APPENDIX G – PARKING

There are two main parking management companies in Wilmington for public off-street parking. Below is a matrix of parking garages and surface lots in Downtown Wilmington:

Managed by Colonial Parking	
# 12 (surface lot)	Front & Walnut Street
# 15 (surface lot)	516 N. King Street
# 16 (surface lot)	7th & Shipley Street
# 18 (surface lot)	11th & Madison Street
# 19 (surface lot)	110 S. French Street
# 22 (surface lot)	10th & Washington Street
# 23 (surface lot)	905 N. West Street
# 26 (surface lot)	711 & 715 N. Orange Street
# 27 (surface lot)	6th & Orange Streets
# 29 (surface lot)	8th & West Streets
# 32 (surface lot)	12th & Chippey Streets
# 36 (surface lot)	10th & Walnut Streets
# 41 (surface lot)	14th & Poplar Streets
# 43 (surface lot)	5th & Orange Streets
# 44 (surface lot)	15th & French Streets
# 48 Renaissance Center (garage)	405 N. King Street
# 50 (surface lot)	6th & Shipley Streets
# 51 (surface lot)	128 N. Market Street
# 52 (surface lot)	11th & Jefferson Streets
# 53 (surface lot)	9th & Washington Streets
# 59 (garage)	1201 N Market Street
# 61 Hypark Garage	900 N. Shipley Street
# 62 (surface lot)	12th & Market Streets
# 73 Riverfront Parking Deck (garage)	Rosa Parks Drive & French Street
# 74 (surface lot)	9th & French Streets
# 76 (surface lot)	10th & Jefferson Streets
# 85 (surface lot)	1320 N. King Street
# 88 (garage)	9th & French Street
# 90 NCC Court House (garage)	500 N. King Street

Managed by Colonial Parking (continued)	
# 91 NCC Court House (surface lot)	501 N. Walnut Street
# 94 (garage)	222 Delaware Avenue
# 95 (garage)	Two Christina Crescent
# 96 (garage)	12th & Orange Streets
# 97 Ships Tavern / LOMA (garage)	201 N. King Street
# 98 One Christina Center (garage)	1 Christina Center
Managed by Wilmington Parking Authority	
10th Street Parking Garage	10th & Washington Streets
Hercules Parking Garage	13th & Market Streets
Train Station Parking Garage	Martin Luther King, Jr. Boulevard,
Brandywine Gateway Parking Garage	13th & King Streets
Corporate Plaza Parking Garage	11th & Madison Street
Customs House Parking Garage	King & Walnut Street @ 7th Street
6th Street Parking Lot	6th & Orange Streets
8th Street Parking Lot	8th & Orange Streets
Managed by Other Management Companies	
Community Services Building Garage	111 W. 11th Street
Delle Donne Parking Garage	11th & Madison Street
Hotel du Pont Car Parking Garage	100 W. 11th Street
Sheraton Suites Garage Parking	422 Delaware Avenue

APPENDIX H – PREVIOUS DOCUMENTS REVIEWED

Listed in order by date published

A. City-Wide Environmental Enhancement Plan (1996)
B. Downtown Wilmington Transportation Fact Book (1996)
C. Regional Parking and Land Use Study (1996)
D. Regional Rail Study Feasibility Assessment (1996)
E. Downtown Circulation Study (1997)
F. Downtown Wilmington Development Vision and Strategy (1997)
G. Downtown Wilmington Land Use and Development Capacity Assessment (1997)
H. Wilmington Downtown Free Fare Zone Feasibility Analysis (1997)
I. Wilmington 2000 Streetcar Conceptual Study final report (1998)
J. Wilmington Transit Shuttle Feasibility Analysis (1998)
K. 4th Street Enhancements report (1999)
L. King and Orange Streets Enhancements report (1999)
M. Wilmington Renaissance Corporation Bike-Ped Subcommittee Report (1999)
N. Wilmington Trolley New Starts application and supporting documents (1999)
O. Delaware Transit Corporation land use white paper (2000)
P. An Update on Downtown Living – The Market for Residential Development (2001)
Q. Location Efficient Mortgage report (2001)
R. Neighborhood Based Transit Strategy (2001)
S. Consolidated Parking Study (2002)
T. Shipley Street Revitalization Plan (2004)
U. Parking Summit documents (2007)
V. Orange Street District Concept Study (2008)
W. Wilmington Bicycle Plan (2008)

APPENDIX I – LISTENING TOUR RESPONSES

The study team organized these responses by location or issue. They appear in their original form and have not been edited.

Specific Locations

General Issues

Specific Locations

Martin Luther King, Jr. Boulevard area

- City needs to have countdown pedestrian signals throughout Downtown, but especially along Martin Luther King, Jr. Boulevard intersections
- Martin Luther King, Jr. Boulevard sweep near the train station is confusing
- South Walnut Street and Martin Luther King, Jr. Boulevard has devastating crashes; signal timing issue?
- Quick speed transitions from Lancaster Ave to Martin Luther King, Jr. Boulevard to Front. Need better signage because lane numbers and widths change.
- Pedestrian crossings of Martin Luther King, Jr. Boulevard are too long and unsafe
- Pedestrian crossings of Martin Luther King, Jr. Boulevard are too long and unsafe
- Signals along Martin Luther King, Jr. Boulevard are not coordinated
- Martin Luther King, Jr. Boulevard and 4th Street are hard for pedestrians to cross

- Walking under the Amtrak bridges is very uncomfortable
- Remove the sweeps
- Make crossings safe. Conquer the barrier streets – Martin Luther King, Jr. Boulevard and 4th St. More alternatives to cars.
- Need to better accommodate pedestrians at intersections, especially along Martin Luther King, Jr. Boulevard (connections between Downtown and the Riverfront). Basic crosswalks and signal visibility are important.
- Amtrak underpasses are dark and dirty.
- Eastbound Martin Luther King, Jr. Boulevard at South Market Street: Two right lanes have the ability to turn right. The right lane should be labeled on the street and overhead "Right Turn ONLY" and second right turn lane should have an overhead sign indicating straight ahead and right turn arrows. Currently indication is only painted on the street and with traffic it is often missed so other drivers are taken by surprise.
- Maryland Avenue should be closed and Route 4 put on Monroe Street. Turning onto S. Madison Street is confusing for unfamiliar drivers who see one-way sign from Martin Luther King, Jr. Boulevard.
- The system of sweeps makes walking from LoMa to the train station area feel unsafe. The Martin Luther King, Jr. Boulevard to Walnut Street sweep should be replaced with open space.
- The train station building is beautiful – look for opportunities to highlight it.
- The viaducts under the train station need to be lit better.
- There needs to be a countdown signal at Market Street going southbound intersecting Martin Luther King, Jr. Boulevard. This intersection is heavily traveled by pedestrians going to the Riverfront.
- Westbound Martin Luther King, Jr. Boulevard at I-95: Signage should be posted that the I-95 ramps are MUST EXIT and at Justison there should be a "Last Exit before I-95" warning.
- Provide water lines in the medians of Martin Luther King, Jr. Boulevard for watering plants.
- Need better guidance for lane shifts as Lancaster Avenue becomes Martin Luther King, Jr. Boulevard crossing Jackson.

Rodney Square

- Rodney Square needs a solution for transit. Connect various parts of City to Downtown, more frequent service to other parts of the City.
- Rodney Square bus hub is problematic in all ways mentioned
- Rodney Square "hub" does not work.
- The Rodney Square situation has angered some residents of BPG who want to enjoy the park on their terms—that is minus the heavy bus traffic, homeless and criminals. BPG is worried this keeps many away.
- Difficult to police Rodney Square area: transit users present all day, "opportunists" mix themselves in; homeless in the square (panhandle; some affluent residents and transit users do not like them and complain to police); criminals (members of gangs who conduct business; petty thieves)

- Rodney Square as currently configured is an impediment to pedestrian and vehicular traffic: buses often stacked; difficult for pedestrians to cross (ex. 10th and King Streets); fumes from idling buses not welcome
- Bus hub at Rodney Square actually causes schedule problems
- I agree with the "perception" of Rodney Square's bus hub appeal but do think that any changes to the hub need to remain convenient (via walkability) for those that ride the bus.
- Rodney Square needs to be a green space (it's the only one for Downtown residents!) rather than a bus terminal
- The transit situation at Rodney Square must be addressed to reclaim the park as a Downtown center and reduce the number of buses around the Square. What is status of Front & Walnut Streets transit center?
- Possible solutions for Rodney Square: another place for buses to layover (ex. Water Street); DART should police its own hub or pay for officers to do so
- Review DART hub location: unsafe condition Rodney Square, and confusing for riders
- Downtown center – Rodney Square
- Is one centralized transit hub needed?
- Consider shifting bus routes to Shipley Street to reduce bus congestion at Rodney Square.
- Move the bus hub to a better location (the waterfront?)
- The Rodney Square hub does not work. You never know where your bus will be pulling up along King St. and commuters are completely exposed to the elements. My suggestion: Put up some sort of structure over the sidewalks, which will protect transit riders from wind, rain, snow. Also, designate required spaces for bus routes to pull up to and load. If I am standing at 10th & King waiting for the RT 5 to show up, it may pull up at the end of the line of buses (11th & King) thus requiring me to try and dodge all the pedestrians along the sidewalk to catch my bus before it leaves. I have been left, and had to wait for the next one (20 minutes later). The panhandlers or homeless approach me at least twice during my wait, either asking for money or trying to sell me something (most times illegal).
- Cars turning onto 10th from King difficult due to buses
- As stated, the importance of Rodney Square as a public open space needs to be defined. People are moving downtown and we need to give them this park back.
- I like the idea of spreading out the bus hub of Rodney Square. I think we could use bus stops in other areas.

Delaware Avenue/I-95 area

- There are problems with weaving traffic and pedestrian conflicts near the Blue Cross Blue Shield garage entrance off Delaware Avenue and 11th Street.
- Drivers have difficulty choosing the correct lanes on 12th Street to get to their destinations: I-95 north and south, Pennsylvania Avenue, Delaware Avenue. Consider better signs.
- Intersection of downtown buildings with street - 10th St./12th St./Delaware Ave.
- Sidewalk ends at the Wilmington and Brandywine Cemetery.
- 11th Street is a speedway between I-95 and Jefferson Street.
- Pedestrian disaster at Jackson and Pennsylvania [Delaware] Avenue.

- Pennsylvania Avenue is pedestrian unfriendly; it's auto-centric, yet it is bordered by dense neighborhoods.
- Pennsylvania Avenue is not pedestrian friendly.
- Adams Street at I-95 North: Signage is hung overhead with a straight and a left turn arrow. Left turn arrow should indicate 10th Street and straight should clearly indicate I-95 ONLY.
- Delaware Avenue south at Washington Street: Right lane must turn right but with very little warning and with the new WSFS building there, the traffic has increased heavily and is causing problems with right lane quickly wanting to move left to avoid turn only.
- Left turns should be allowed from 10th Street onto Washington Street.
- Northbound Rt. 52 exiting the City at I-95: Sign to I-95 should have MUST TURN RIGHT and that far right lane should not extend to Delaware Avenue cut off. Likewise, the lane leading to Delaware Avenue should have "ONLY" added to the sign.
- The 500 block of Delaware Avenue is problematic because of post office and illegal parking on Delaware Avenue.
- The crosswalk on Delaware Avenue at the Children's Theatre (Jackson Street) crosswalk signal doesn't function properly.
- Unsafe weaving, cars stopping in traffic near YMCA at 11th.
- Curb juts out too far at the southeast corner of 11th and Jefferson.
- Speeding and red light running on Adams from 9th to Delaware.
- Biggest concern is bike/pedestrian on Delaware Avenue. Make crosswalks more clear/repaint – signs to warn drivers of crosswalk. Especially by Childrens Theatre on Delaware Avenue.
- Pedestrian crossing at Delaware Avenue and Jackson: no right turn on red 6 am – 9 am and 4 pm – 6 pm; time light to give pedestrians a start before cars start turning; put "yield to pedestrians" sign at intersection
- Traffic light @ Delaware & Washington in the morning – just extend the green light on Delaware Avenue heading into the city.
- The dumbest thing they ever did was putting in a post office on the 500 block of Delaware Avenue without any on-street parking. You're expected to park in a high-rise garage to go in the post office for 10 minutes.

Market Street

- Difficult parking for emergency vehicles on 9th and Market St.
- Need better accommodation for school buses on 500 block of Market St; pulloffs?
- Market St. traffic (double parking, deliveries, etc.) have been a hindrance on the new Rte. 32 route along Market.
- Failure to obey parking law on North Market Street.
- Keep big buses off of Market St
- South Market St./ 8th & Orange – identified in previous plans but nothing has happened
- Need Market Street to take the lead
- Raise Market Street to allow development
- A countdown signal should be put at the light at the Riverfront Market and Market Street Bridge.

- A pedestrian-only phase should be considered at the 10th Street intersections with King, Market, and Orange Streets.
- Drivers on Market Street intersecting north and southbound through 2nd Street have to sit at long lights while no traffic is passing on 2nd Street. This intersection needs a sensor.
- Eastbound Martin Luther King, Jr. Boulevard at South Market Street: Two right lanes have the ability to turn right. The right lane should be labeled on the street and overhead "Right Turn ONLY" and second right turn lane should have an overhead sign indicating straight ahead and right turn arrows. Currently indication is only painted on the street and with traffic it is often missed so other drivers are taken by surprise.
- The light at Market Street (going southbound) for the drivers passing through 2nd is extremely long. During evening rush hour lower Market Street backs up with traffic because the 2nd Street light is long, and the Market Street light is very brief. Drivers on Market will sit through 3 light changes before passing through.
- There needs to be a countdown signal at Market Street going southbound intersecting Martin Luther King, Jr. Boulevard. This intersection is heavily traveled by pedestrians going to the Riverfront.
- Delivery vehicles block traffic on Market Street.

4th Street

- 4th and King is uncomfortable for pedestrians
- Martin Luther King, Jr. Boulevard and 4th Street are hard for pedestrians to cross
- 4th Street is difficult to cross for pedestrians, especially at the bottoms of hills and at Walnut Street.
- Public open spaces, wider sidewalks, decorative treatments, streetscapes (4th & Shipley park), 4th Street, West Street to Downtown.
- Make crossings safe. Conquer the barrier streets – Martin Luther King, Jr. Boulevard and 4th St. More alternatives to cars.
- 4th Street is wide and unsightly. Pedestrian, transit and gateway improvements are needed.
- 4th Street/I-95 area is a poor gateway to the City!
- There needs to be a left turn lane from 4th Street onto Adams Street.

King Street

- King St. is a highway, needs to be a boulevard, same with Orange St. More development of surface lots.
- King Street is too wide and fast
- 4th and King is uncomfortable for pedestrians
- King gets very wide after 9th Street. Minneapolis has little parking on-street, this could be useful (Shipley Street?) – no parking and wider sidewalks; loading zones.
- Congestion on King Street
- A pedestrian-only phase should be considered at the 10th Street intersections with King, Market, and Orange Streets.
- Buses and delivery vehicles create congestion on King Street; it's not just bad at rush hour any more

- Illegal parking/stopping on King Street at the courthouse

Orange Street

- King St. is a highway, needs to be a boulevard, same with Orange St. More development of surface lots.
- South Market St./ 8th & Orange – identified in previous plans but nothing has happened
- Bad lane shift on Orange Street at 9th
- A countdown signal should be placed at 10th and Orange so that pedestrians know how long they have to cross at intersection (woman was killed at this intersection).
- A pedestrian-only phase should be considered at the 10th Street intersections with King, Market, and Orange Streets.
- Left turns are made illegally from eastbound 10th onto Orange.
- Sidewalks on Orange Street between 9th and 10th need repairs.
- Pedestrian problems crossing @ 10th & Orange and 11th & Orange St. Traffic does not obey rules about left & right turns & do no yield to pedestrians crossing legally with correct "walk lite." Most of my DuPont colleagues have had "near misses" by drivers not yielding to pedestrians. Also do not obey the "no turn on red" @ 11th & Orange.
- Speeding vehicles on 11th St. traveling east as they approach Orange St. & Market St.
- Speeding buses & other vehicles on Orange St. from 10th to 11th Street trying to make the light, especially buses making a right turn onto 11th St.
- Illegal right turns on the red traffic signal from Orange St. to 11th Street.
- Longer "pedestrian only phase" on countdown signal at 11th & Orange Streets.

Walnut Street

- Speeding is a real problem on Walnut Street
- The lane configuration on Walnut Street approaching 2nd Street is confusing.
- Walnut Street is a very unfriendly pedestrian experience.

Other locations

- Fire Station 1 has difficulty releasing trucks up West Street
- Where more than one lane turns (such as Orange Street at 12th Street), drivers cross over into adjacent lanes.
- A state police officer stops one lane of traffic on 12th Street to let people out of a garage in the evening peak hour.
- Drivers park on the sidewalk at the post office because there isn't enough parking available. This is not a good place for the post office.
- 14th Street connector
- 5th & 7th and West Street intersections need two-way stop signs.
- Evening traffic from Torbert Street adversely affects the Midtown Brandywine neighborhood.
- Improve signal timing at 2nd and Shipley Streets.

- The light at Baynard Blvd and Concord Pike is problematic when turning left onto Concord Pike going northbound; it was suggested to install left turn arrows at Concord Ave and Baynard Blvd light. [Outside Downtown]
- The neighborhoods on the west side of I-95 should be better connected to Downtown.
- The wayfinding signs are all outdated that lead to and around downtown.
- Two-way traffic on Broom Street should be extended north to at least 2nd Street, and possibly 4th Street.
- Walking on Baynard Boulevard between the Brandywine and 18th Street is dark and uncomfortable at night.
- 9th Street (300 block) a choke point for fire trucks
- 9th and West Streets needs a two-way stop sign.
- In the 100 block of W. 9th street (by Dunkin Donuts), cars are double parked illegally, which cause delays.
- 6th and 7th Streets both run in the same direction
- 5th and 6th Streets should change direction so even-numbered streets and odd-numbered streets alternate.
- The 1200 block of West Street is adversely impacted by the traffic flow from Mikimoto's, Presto and the Ale House. Patrons use Torbert Street to exit the parking lot and to search for additional parking. The residents of the 1200 block of West request (1) Torbert Street be made No Access onto West and (2) an exit be created onto 12th Street. Such a pattern would reduce traffic, free up parking for residents, and keep the restaurant patron traffic in commercial areas.
- Sidewalks on 9th Street need repairs.
- On 12th Street between 4-6 pm, have all lights turn green @ the same time.

General Issues

Transit circulation/taxis

- Great arts institutions, good hotels, restaurants, strong employment base. Good transportation should enhance the ease of movement to and between all these institutions.
- Great location; between Boston and Richmond, New York and Washington, plus transportation to these cities plus to the north, west and south – New York state, Pennsylvania, Ohio, Virginia, Maryland, West Virginia. Transportation is key. More trolleys!
- Implement a local transportation system – trolley or small bus – that is independent of the routes that move people in and out of the City.
- Lack of transit alternatives beyond standard DART buses. Need more variety: wheeled trolleys, vans, taxicabs, pedi-cabs (a replacement is needed for Philly Car Share!). Need bike fleets (as in Paris, Copenhagen, etc.).
- Multiple buses at a single stop can be confusing
- Trolley is not serving its intended purpose – trips are too infrequent for ease of use and costs too much. Music on the trolley is often too loud or not appropriate.
- The trolley doesn't work – it's uncomfortable and service is far too infrequent
- Trolleys are uncomfortable and too expensive for short downtown trips – in many cities, they're free
- Larger transit and taxi service for people that want to go out at night needs to be more frequent.
- Affordable cab sources would be nice.
- Buses are not attractive, too big, use newer, smaller vehicles
- Buses should make a statement about a city.
- Improve transit facilities to improve perception – partner with development
- Different bus pattern – no major hub.
- Dedicated bus/trolley lane for access to Frawley Stadium; free parking at downtown garages to go with it?
- More residents living downtown. More transit options.
- I would like to see better retail downtown, especially a mixed with parking and bus service.
- Focus on opportunities to bring tourists into the area and help them get around; i.e. visitors arriving on the train.
- Residents should have more transportation options; especially those who want to live Downtown. The transit system should serve Downtown and other city neighborhoods as well as it serves the current suburban commuter network. Transit schedules are not intuitive if you are not going out to suburbs and not enough city bus stops are shown.
- Enhanced retail development on Market Street; provide access for target market from Trolley Square, Wawaset Park, Westover Hills, Greenville.
- City circulator that can interact well with a relocated hub at the train station
- Get [people] to arts community, Opera Delaware, Delaware Theater Company, Art Museum, need to connect to this study and to Downtown
- Distinctive (color-coded) routes for downtown transit

- Better rail service to Philadelphia and the airport (something between SEPTA and Amtrak in terms of time and cost)
- Better taxi service if there is a market for it
- Trolley extended to Trolley Square with much more frequent service
- Very frequent bus service
- Transit shuttle between downtown transit hub and train station with almost constant service (like Denver)
- Improve key connections between downtown and adjacent districts, especially at train station, 4th St. / I-95, across Christina River. Methodical improvements to create walkable transit-friendly environment.
- More frequent trolley-like transportation. (No more slippery wooden seats though!)
- I think that most folks who live and/or work downtown do so for the lifestyle of moving around easily with access to many things. Ensuring quick, efficient access to transit, car-share and bus transport is critical – not to mention room for pedestrians to move safely. This would include biking as well.
- Taxis and transit and rail.
- Consider signing buses for destinations within the city, not just the suburbs, so that people unfamiliar with the area will be comfortable using transit for short trips within Wilmington.
- Excellent transportation between Downtown hotels and the riverfront is needed to gain convention business.
- Need intelligent response on transit side – transportation vs. development; green technology
- Neighborhoods surrounding the City need good access to Downtown
- Transit service to support residential growth
- Great location / train service
- Opportunities in close proximity / N/S train service only
- Mass transit investment (E/W?) needed if city becomes more livable and walkable
- Distance to transit
- Getting around downtown vs. to downtown
- Great increase in transit use from Middletown
- Some streets were not designed to handle traffic they see today – transit can't access everywhere
- Downtown transit should have different vehicles than suburban routes. There needs to be a better partnership between City and DART. There could be funding partnerships with businesses but decision-making for transit needs to be cooperative.
- There needs to be better cooperation with Amtrak and more information available about improvement projects.
- Bus schedules are hard to read and understand; transit needs to be something you can comfortably "hop on" and use without a lot of prior planning
- Many city residents/workers don't know how to use transit to get around. Provide maps and schedules in shelters and other marketing tools to help.
- More information and marketing needed for transit – where can you buy passes and get better schedule info. DART website should have trip planning.

- AMTRAK station: Stopping, loading and taxi stands need to be evaluated and appropriate signage put in place along Church Street and under the track overpass.
- Better trolley service will be important to support future growth.
- Bus service on Sunday is a great idea, but why bother to come downtown on a Sunday? NOTHING is open!!!
- Easy transportation access, carts, taxis (Geneva, Switzerland)
- Historic architecture; small scale; varied neighborhoods; lots to do; conveniently located. Needs to be cleaner; needs sidewalks and roads to be repaired; needs pedestrian-safe intersections; more frequent buses and on-time; make routes clear; connect neighborhoods.
- How can we move people more efficiently? Trams; access to tourist areas w/o a car.
- The lack of reliability and cost of taxicabs is a real problem. Service is fine during the day (for the most part) to and from the Hotel DuPont and the train station, but in the evenings, there are no cabs lined up on Market Street or in Trolley Square waiting for customers. In fact, you can never be sure that a cab will even be available if you call for pickup. Even if cabs were readily available, they are far more expensive here than in other cities.
- Trolley should never have raised the price, and changed the route. (Again, my own opinion). Why pay the price for ½ the ride?
- Trolley to actually serve Trolley Square. Isn't that what it's called? Will help residents get to decent supermarkets, and have access to other restaurants. Downtown needs a clean safe supermarket to shop in.
- Lack of reliability of transit
- Transit operations that support activities OTHER than daytime downtown employment (night-time entertainment, for example)
- Transit needs longer hours & more weekend hours & buses.
- I think they should have the buses run every 15 minutes like in Philly. It's not right that the buses can be late and have passengers late to work etc. They're talking about they don't have enough money but the buses are running on Sundays. WHY?
- More scheduled runs on weekends especially on Route 40 and surrounding areas in Newark & Bear.
- Need more buses, and they need to have the buses running all weekend including Sundays, because lots of people work on Sunday that need the transportation. They need to run more often.
- Need early buses on weekends for work. The first bus cannot be caught until 9:00 am. Most people have to get to work at 7:00 am. Also on weekends, transportation can be extended later – it would help us greatly.

Comprehensive pedestrian/streetscape improvements

- Wilmington is not as pedestrian friendly as it could be. Intersections throughout Downtown (and neighborhoods) are not striped for crosswalks.
- Pedestrian crosswalk counters to inform pedestrians of time to cross the street.
- Need for more friendly-to-pedestrian ways.
- Safe and clean streets.
- City needs to have countdown pedestrian signals throughout Downtown, but especially along Martin Luther King, Jr. Boulevard intersections
- To enable pedestrians, encourage citizens, workforce and youth "auto-free" or "near" auto free zones should be considered. Car-free zones give safe haven for those who choose alternative modes. Maintenance of surfaces, level changes, must remain a priority for safety's sake as well.
- Pedestrians unsafe; crime/perception crime – walking not an option.
- Strolling is a comfortable activity
- Washington Street, Delaware Avenue, now easy to walk – 4th Street or 6th, 7th Streets are not comfortable, Jackson Street not easy or comfortable.
- Work with City beautification projects, increase pedestrian safety measures.
- Downtown should have dense, mixed uses with nighttime activity – the pedestrian experience is paramount
- A vibrant Downtown, with businesses open late, more residents to bring in a greater variety of retail businesses, and a well-lit, safe pedestrian environment
- Better sidewalks.
- Better walking/pedestrian/bike facilities.
- City with crosswalks and defined pedestrian corridors
- More attractive, safe, walkable
- More pedestrians; more improvements – trees, plantings, etc.
- Clean, well lit, sidewalks busy after 5 p.m. with shoppers, diners, etc. Less cars.
- Lots of pedestrian traffic! as well as frequent and ample transit service! to get people out of town via bus after they've enjoyed an evening in town after work.
- Shops. Food establishments with areas outside. More streetscapes.
- There needs to be more public open space downtown, including areas to walk dogs.
- Cosmetic, streetscapes should be more durable and less prone to vandalism
- Streetscapes.
- Signal progression that benefits pedestrians by keeping traffic flowing smoothly, but slowly
- Provide a better connection between the courthouse and Market Street for employees, jurors
- Enhanced pedestrian signs
- Excellent pedestrian access (good lighting, better pavement markings, countdown signals)
- Great pedestrian paths to the train station
- Two-way streets slow traffic and help pedestrians
- Make crossings safe. Conquer the barrier streets – Martin Luther King, Jr. Boulevard and 4th Street. More alternatives to cars.

- I think that most folks who live and/or work downtown do so for the lifestyle of moving around easily with access to many things. Ensuring quick, efficient access to transit, car-share and bus transport is critical – not to mention room for pedestrians to move safely. This would include biking as well.
- Improve key connections between downtown and adjacent districts, especially at train station, 4th Street / I-95, across Christina River. Methodical improvements to create walkable transit-friendly environment.
- Optimize signal phasing – extended all red/leading pedestrian interval
- Pedestrian amenities/green City
- Needs: walkability / retail centers
- Encouraging locals to walk – compared to other cities
- Need to better accommodate pedestrians at intersections, especially along Martin Luther King, Jr. Boulevard (connections between Downtown and the Riverfront). Basic crosswalks and signal visibility are important.
- Pedestrians and bicyclists must be accommodated everywhere.
- Walking a few blocks doesn't even occur to a lot of people
- Historic architecture; small scale; varied neighborhoods; lots to do; conveniently located. Needs to be cleaner; needs sidewalks and roads to be repaired; needs pedestrian-safe intersections; more frequent buses and on-time; make routes clear; connect neighborhoods.
- Operational improvements like crosswalks, bus shelters, curb ramps, countdown signals, bike racks, etc. would do a lot to raise awareness of pedestrians.
- Pedestrian connections between Downtown and both Trolley Square and Cool Spring are poor. This discourages walking to work.
- People avoid driving downtown at night because of perceptions about their safety.
- There is good pedestrian access.
- Wilmington's "walkability" makes it a great place to work (live, etc.). It is on its way to creating/having its own reputation apart from Philly and D.C. with the growth taking place citywide.
- Sidewalks not conducive to walking with uneven cobblestones and bricks. Bricks are slippery – cobblestones problem for women in heels.
- There is a widespread perception that it is unsafe to walk along to and from parking lots and places of business, not only by people that occupy the building, but by those that must come into downtown Wilmington from suburban work sites.

Parking, enforcement, and other policy issues

- There should be close 'satellite Park & Rides' on US-13, Miller Road S.C., Governor Printz to serve Downtown employees with high frequency transit/shuttles, as is done in Atlantic City for casino workers.
- Parking kiosks to do away with so many parking meters

- I hope that new satellite parking additions are remote enough to keep traffic from entering highly traveled corridors during peak commute times, i.e., the Frawley P&R, while convenient, is a barrier to reducing city congestion.
- Park and Ride studies / options
- Park and Ride future locations
- Wilmington police do not have a traffic enforcement so speeding and California stopping adds risk to pedestrian proliferation.
- Too much air pollution, vagrants, etc.
- Parking Issues – need better enforcement
- Cost of parking may deter commuters but is especially difficult for employees of small businesses and service/hospitality workers. Can there be different parking rates for different levels of employment?
- Riverfront Park & Ride is too close and brings too many cars into Wilmington
- Parking code is too restrictive for downtown residential development
- Bus schedules are hard to read and understand; transit needs to be something you can comfortably "hop on" and use without a lot of prior planning
- Students can use parking permit stickers to park at meters on Market Street. Enforcement? Policy?
- Walking a few blocks doesn't even occur to a lot of people
- Perception that there's not enough parking
- Despite Downtown Visions, streets are trashy, cans are overflowing in the a.m., recent sidewalks and old sidewalks have failures.
- 4th and Market – both sides of sidewalk closed due to construction at same time! Needs coordination.
- New parking garages replacing "historic buildings"
- Requirements for minimum parking spaces keeps some downtown buildings from being rehabbed
- Pedestrians unsafe; crime/perception crime – walking not an option.
- Double-parking that blocks traffic.
- Many city residents/workers don't know how to use transit to get around. Provide maps and schedules in shelters and other marketing tools to help.
- Encourage means of transportation without automobiles!
- Downtown needs to be prettier, not so dingy (although Downtown Visions has made a difference)
- Development should proceed in a more contiguous fashion, building on existing areas rather than creating isolated, "Fort Apache" style development
- Free parking at the Riverfront could undermine the urbanity of Downtown
- Fine days to regulate loading/deliveries.
- Maintenance is important, so solutions must be considered.
- Garages with longer hours to support around-the-clock activity
- Good guidance to parking: Web-based application to find available spaces, parking on maps, more parking guide signs
- Encourage use of underutilized office space

- Ride/Share options – Philly car share example
- Overall public safety
- Code changes to encourage different use
- New design guidelines for riverfront
- Wilmington needs to revive Transportation Department, or create a commission to bring all parking and transportation issues to one place. Could this be Downtown Visions? Go for quick wins, especially bicycle improvements.
- There should be an 'Easy Pass' or smart card that would allow use on transit, for parking (on and off street)
- More information and marketing needed for transit – where can you buy passes and get better schedule info. DART website should have trip planning.
- Parking is ridiculous downtown. We want people to work here, but then charge them astronomical amounts to park their vehicles. Perhaps work with the parking garages, and surface lots to offer reduced fees for ridesharing commuters?
- I totally agree we need to re-identify parking garages in the city. I believe we have more than enough parking (garage, lot, and street) for downtown.

Comprehensive bicycle improvements

- Bicycle lanes are not striped; generally speaking, we need to encourage more walking and bicycling.
- Bike share program. Bike lanes.
- Better walking/pedestrian/bike facilities.
- Still consider bike paths, encourage bicycle-to-work from Highlands, 40 Acres, other neighborhoods.
- More opportunities for bicycling
- Have a bike rack design competition
- I think that most folks who live and/or work downtown do so for the lifestyle of moving around easily with access to many things. Ensuring quick, efficient access to transit, car-share and bus transport is critical – not to mention room for pedestrians to move safely. This would include biking as well.
- Pedestrians and bicyclists must be accommodated everywhere.
- Although outside Downtown, the East Coast Greenway should be connected to encourage bicycling into town.
- Use greenway trails as bicycle commuter routes between North Wilmington and Downtown.
- Offer free bike lock facilities in all parking garages & advertise it so people know.

Comments not otherwise classified

- Development considers interaction with the street as an imperative.
- Need to be a more comfortable walking city, how to deal with new ways to do things.
- 7th Street has more residential, but there need to be neighborhood amenities, and getting people around. Buses are intrusive and require advance knowledge.
- Development of South Wilmington across the river from the train station.
- Greatly increased housing opportunities, more of a "neighborhood" feel, more 24-hour activity.
- More of its own identity – not a suburb of Philadelphia
- Focus on unique aspects
- Focus on transportation investments that support quality development
- More residents; more businesses, commercial uses, neighborhood vibrancy.
- Visitors, particularly from downstate, need a very positive first impression of downtown Wilmington
- The City is gaining momentum and will be considered a destination the way Providence, RI, is today. The downtown sill include the Christina Riverfront which will run through the middle of it (i.e., the definition of "Downtown" will expand to include area S. of Christina Landing).
- I believe the downtown will become more lively and populated as we area affected by a radically changing economy and higher energy issues.
- I am excited that Wilmington has such great representation via the WRC and look forward to the residential growth along with the commercial attractions. Slowly but surely these changes will help the economic growth as we choose to partake of these changes in our own backyard.
- I see it growing with residents.
- Fully integrated with housing
- Downtown residential growth is one of the most important developments in Wilmington.
- Beautiful, bustling, welcoming and comfortable.
- More life beyond 9-5.
- More comparable to downtown Philadelphia.
- More eating, entertainment and venues.
- Be open to new ideas. Look at things in a new way.
- Most important to help with image of Wilmington.
- Use of water to move people on ferry inter- and intra-city
- Transportation is key. Focus on good transportation handling will lead to better, more vibrant life in City and in Downtown.
- Compatible with land use, provides infrastructure.
- Make downtown a destination, not a pass through. We need "anchor" establishments to draw people. Affordable cab service would make access easy.
- Increase focus on multimodal – residential trend
- Downtown life after 5 pm
- There is a misperception regarding Downtown safety
- Partner with communities to reduce cut-through traffic

- Small City feel/motto for city "One person can make a difference."
- 24/7 character vs. work week
- "in the middle of it all"
- Timing of study related to how people are choosing living alternatives – sustainable.
- Increase in jobs within city limits
- Street network – difficulty to get around
- Existing infrastructure – focus on employment growth
- Attracting younger work force to live and work in city
- Return on investment (100% in city / 20% state)
- South bank of the Christina River access – how do you improve multimodal access?
- Available space / underutilized sites
- Master Plan ideas – ongoing study
- Parking Issues – safety perceptions
- Perspective from surrounding larger cities
- Trends in parking demand / commuting habits
- $20K-30K per space for new construction
- New large companies? Smaller workforce
- Travel link – subsidized travel issues
- Economy drives downtown growth
- Ensure that transportation doesn't limit growth
- Hospital expansion to 600 jobs
- Interest in centers along south bank
- Congestion on roadways leading to city – buses stuck in traffic
- Density of corporate headquarters related to size of city
- In 20 years, we want Wilmington to be able to compete with the suburbs
- Wilmington needs to be a destination for future generations to live and work
- Concentrate on congestion issues
- Cost of parking may deter commuters
- No connection to multi-use – single purpose
- During rush hour it's easy to leave downtown – problems occur outside of city
- Political influences during traffic patterns
- Neighborhoods controlling traffic – Trinity
- Congestion in City is not bad
- On-street parking occupancy
- Coordinate with City climate change initiatives
- Coordinate signals; "show that the City cares" about transportation.
- Piggyback with a market study/economic development study
- Take historical assets into consideration: Old Swedes Church, Christina Landing (national park?)
- Get feedback from the suburbs: Why are/aren't people coming Downtown?
- Although many improvements have been made over the past several years, more needs to be done to provide a balance of transportation options. A combination of better

management and road improvements like the one that have recently been done are needed.

- Bank of America: parking is not an issue due to a reduced work force and telecommuting opportunities.
- Compact, friendly. Greater support to pedestrians, bus users, tied to the increased proposed development.
- Good economic basis of companies; untapped architecture; transportation huge role – economic contributor.
- Greater population density driving greater variety of activities and venues
- I don't believe we are great yet. To become a "great" city, we need to be a "destination", not a "pass through." Wilmington just isn't center city. It is the east and west and north sides. We need more places to go, restaurants, events, clubs.
- It's trying. By looking at other city examples of forward thinking. Compliments to you for embracing bicycling mode of transportation. If we embrace bicycling, then we also have to embrace those of our youth who use skateboarding as their mode of transportation. Even though it may be used to a lesser degree, we can be a great city by being skater friendly. To be a vibrant city, we must embrace our youth. We welcome students to DCAD; may use skateboarding.
- Living alternatives – sustainable.
- Location in broader region. Economical cost of living. Manageable traffic.
- Poor design of buildings failing to interact well with the street
- The transportation system is easy to understand and use.
- Wilmington is a great city because many of its citizens are. There is a common interest among all.
- Wilmington is a great city because of its scale and its diversity. Transportation plays an important role in providing access to and within the city. Transportation design forms and reinforces perception of overall well-being of the city – for better or worse.
- Confusing direction of one-way streets.
- Two-way: may need to do more within Downtown
- More 2-way streets, fewer one-ways
- Two-way streets slow traffic and help pedestrians
- Landscape improvements need maintenance agreements before they're built
- Light synchronization
- Get rid of the monopoly, Colonial Parking.
- I-95 needs more lanes. The city needs more street access out & into the city somehow.
- Make dividers on highways higher so rubbernecking will be cut down on opposite lanes.
- Mandatory driving tests every 10 years for drivers license holders.
- Get rid of residence requirement for Wilmington police officers. This will attract better candidates, which will make better officers, which will make Wilmington safer. A safer Wilmington means people will be more reluctant [ed. note: does this mean "less reluctant"?] to use public transportation. Right now it is not that way. At 5 pm it's a mad dash to get out of the city while you still can.