
DOWNTOWN WILMINGTON PEDESTRIAN IMPROVEMENT PLAN

2018



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Table of Contents

Executive Summary	1
Introduction	3
Context and Study Area	5
Existing Conditions	10
Elements that Drive Pedestrian Activity	30
Public Engagement	36
Recommendations	39

Executive Summary

Downtown Wilmington serves as one of the most, if not the most, important physical, economic, and cultural assets for Clinton County and the county seat of Wilmington.

Over the past several years, Wilmington, like so many communities, has observed a revival in downtown development. Buildings are being renovated, new businesses have been opening, anchoring businesses have been flourishing, new residential and retail spaces have become available, and downtown events are regularly attracting large crowds.

Interestingly, much of this positive development for downtown Wilmington has occurred during a period of time in which the community has faced its largest

economic crisis in its 207-year history; not to mention the national Great Recession. Much of the success is the result of private investment, local efforts to encourage supporting businesses and events, and also a reflection of more macro-level trends of renewed interest in urban cores and historic neighborhoods.

However, even with all of the positive activity that has occurred, there still are many issues and challenges needing addressed. For downtown Wilmington, one of the most pressing issues is that of pedestrian safety and improving the pedestrian experience.

Not surprisingly, given the concentration of pedestrian activity, downtown Wilmington observes

more pedestrian accidents than any other part of the community. New pedestrian safety infrastructure is needed and old infrastructure should be updated, modified or replaced.

In addition to safety, it is important to address issues related to the pedestrian experience. These issues, such as truck noise, lighting, wayfinding, and programming can be overlooked. Yet, these issues influence the attractiveness and desirability of the downtown.

Both of these topics are essential to continuing the positive momentum in downtown Wilmington. If left unaddressed, these issues will limit the current, upward trajectory of downtown development.

Pedestrian accidents in the City of Wilmington (Ohio Department of Transportation 2003-2015)

*Larger dots equate multiple accidents in the same location



Introduction

This plan is a response to the concerns and ideas that the people of Wilmington have expressed over the years about their downtown. Over the past decade, downtown Wilmington has experienced reinvestment in the form of residential apartments, new storefronts, beautification, and public art. Many of these improvements are targeted at creating a memorable pedestrian experience, similar to what existed in the downtown many decades ago. While this plan aims to promote a positive experience for visitors of downtown Wilmington, the key emphasis is on safety. As foot traffic continues to increase downtown from local residents and shoppers, the interaction between people and fast-moving cars must be accounted for through urban design.

The residents of Wilmington are seeing an increasing need to focus resources on downtown and to improve the pedestrian experience throughout the City. During the public meetings for the 2015 Wilmington Comprehensive Plan, “Downtown/Historic” was the third-most talked about topic (16.8% of all mentions) and “Parks, Trails, Walkability, Pedestrian Safety, Recreation” was the fourth-most popular topic. As a result of this input, the City made it a goal to focus resources to improve infrastructure downtown, which helped to bring about this plan. A second result was the adoption of the goal to increase the quality and quantity of pedestrian infrastructure throughout the City. This sentiment was echoed in the 2017 Clinton County Parks and Open Space Plan, which found that 46% of roads in Wilmington are without sidewalks.

Wilmington recognizes that downtown is a major key to the overall success and desirability of the community as a whole. As more people choose to live, work, and shop downtown, it becomes increasingly important to ensure that the experience on foot is both safe and enjoyable. To achieve these goals, the Clinton County Regional Planning Commission and Main Street Wilmington have partnered with the public and the City of Wilmington to produce the 2017 Downtown Wilmington Pedestrian Plan. This plan contains detailed data on the strengths and weaknesses of downtown Wilmington, and recommendations on how the City can move forward to address them.

Downtown Wilmington



Context and Study Area

HISTORIC BOUNDARY

The boundary for downtown Wilmington that is used in this plan is consistent with the “Downtown Historic Zone” present in the City’s zoning code. This area is subject to certain restrictions under the City’s zoning code. The entire downtown is in a walkable 25.5 square acre zone, complete with a mix of land uses in its 148 parcels.

Historic Downtown Boundary

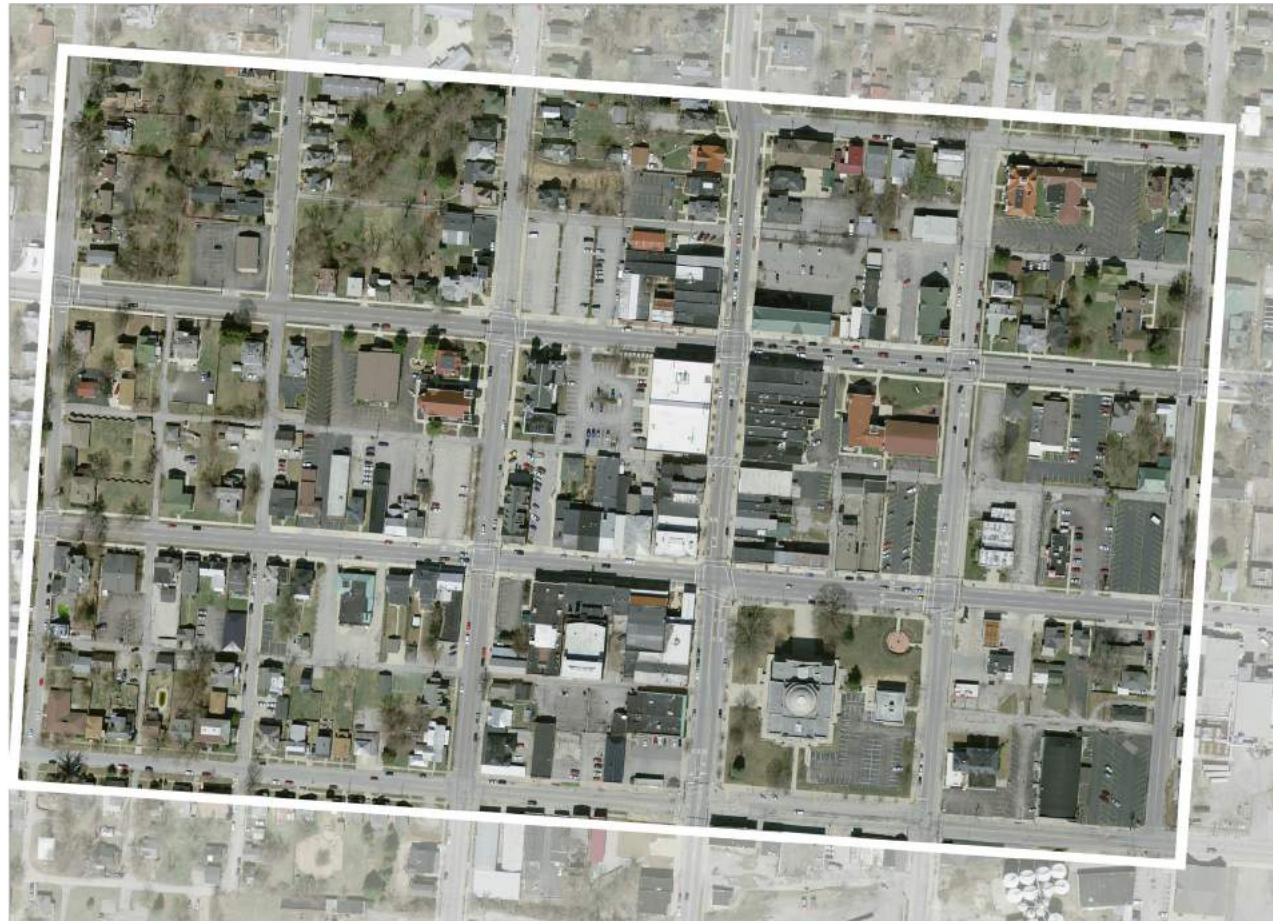


0 62.5 125 250 375 500 Feet

STUDY AREA

For existing conditions analyses on sidewalks and intersections on page 15, the traditional boundary was enlarged to gain a broader understanding of each block. This boundary follows Columbus Street from Spring Street to Lincoln, then south down Lincoln to Sugartree Street, then west along Sugartree Street to Spring Street, then north up Spring Street to Springbird Court.

Study Area Boundary



0 0.02 0.04 0.08 0.12

LAND USE

While the historic district is flexible for allowing commercial, residential, office, and institutional uses on the street level, the majority of property is leased as commercial and office. The highest concentration of commercial uses are located on Main Street between Mulberry and South Street, and South Street between Locust Street and Main Street.

There is a prevalence of government uses, with the largest being the historic Clinton County Courthouse, which consumes an entire city block along Main Street. The Wilmington Municipal Building covers half of a city block on South Street south of Locust Street. There are six churches that are within the historic district, mostly located along Locust Street on the periphery. Additionally, the Murphy Theatre serves as the primary institutional use downtown, which hosts a large number of events at its location on Main Street.

Existing Land Use Map



FIGURE GROUND

The figure ground shows the existing built form of the downtown. The largest clusters of buildings are along Main Street between South and Mulberry and South Street between Locust and Main. The peripheral streets are mostly consumed with parking to support the active land uses. Many of these parking lots were once buildings, but the increased demand for downtown parking called for the demolition of them.



CIRCULATION

Downtown is defined by two arterial streets that each travel one-way.

Locust travels west one-way, which is also US22/SR 3, and Main St. travels east one-way, which is also US22/SR 3. These streets are bisected north-south by South Street which is also US68. These are the three State roads that were studied by the Ohio Department of Transportation (ODOT), shown in Figure 5.

According to the average daily traffic (ADT) counts for 2012, a high level of traffic is recorded traveling north up South Street and terminating at Main Street, suggesting that through traffic will split here and either travel north or east out of Wilmington. The lowest traffic counts are recorded west of South Street on Main and Locust, which is consistent with the lower noise levels in this region.

Although the traffic counts for the surrounding streets were not collected, site visits and accident data support that these surrounding streets are not problem areas.

Average Daily Traffic (ODT 2012)

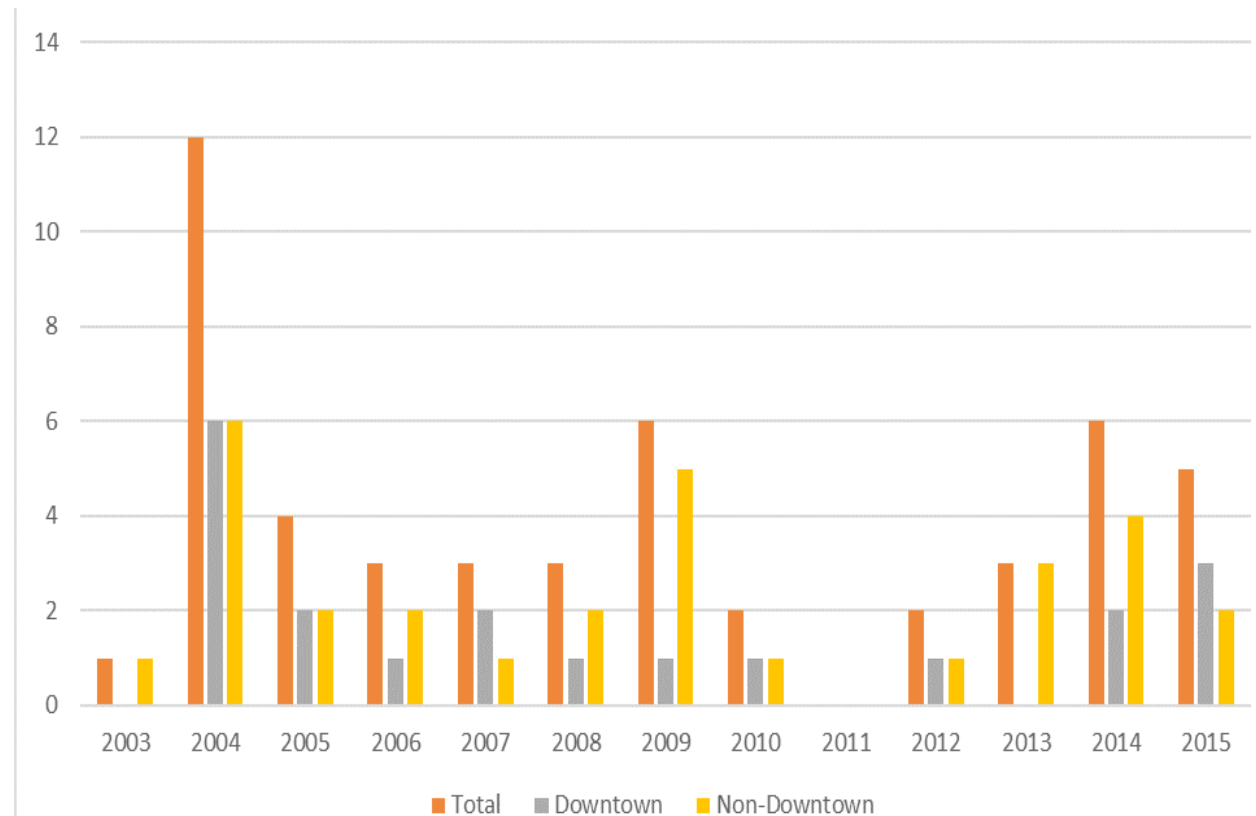


Existing Conditions

During the period between 2003 and 2015, 50 pedestrian accidents were reported in Wilmington with 20 occurring downtown and 30 occurring in the rest of the City. Police reports showed that on average, between one and two pedestrian accidents will be reported downtown annually.

When considering the optimal place to make safety improvements, the high concentration of accidents downtown makes a strong case for this plan. Should such improvements be successful in reducing accidents, Wilmington could implement these best practices throughout other areas in the City that have critical need.

Annual Pedestrian Accidents (ODT 2003-2015)



WILMINGTON RANKS HIGH, REGIONALLY

When comparing the rate of pedestrian accidents with similar cities, Wilmington ranks the highest. Using State data from 2011 to 2015, Wilmington was found to have an accident rate of 1.3 accidents per 1,000 people during a 5-year period. This rate was followed by 0.9 for Washington Court House, 0.7 for Xenia, and 0.6 for Lebanon.

The low rates of pedestrian accidents in Xenia and Lebanon could be due to a number of factors, namely that these towns have higher rates of people walking and biking downtown to access bike trails, shopping, and dining. Lebanon also employs various urban design principles that have been proven to impact safety, such as narrow streets, striped crosswalks, and extended curbs (bumpouts).

Another factor to be considered is that Wilmington is the only city on the list with one-way streets throughout the downtown.

Pedestrian accidents per 1,000 population (ODT 2011-2015)

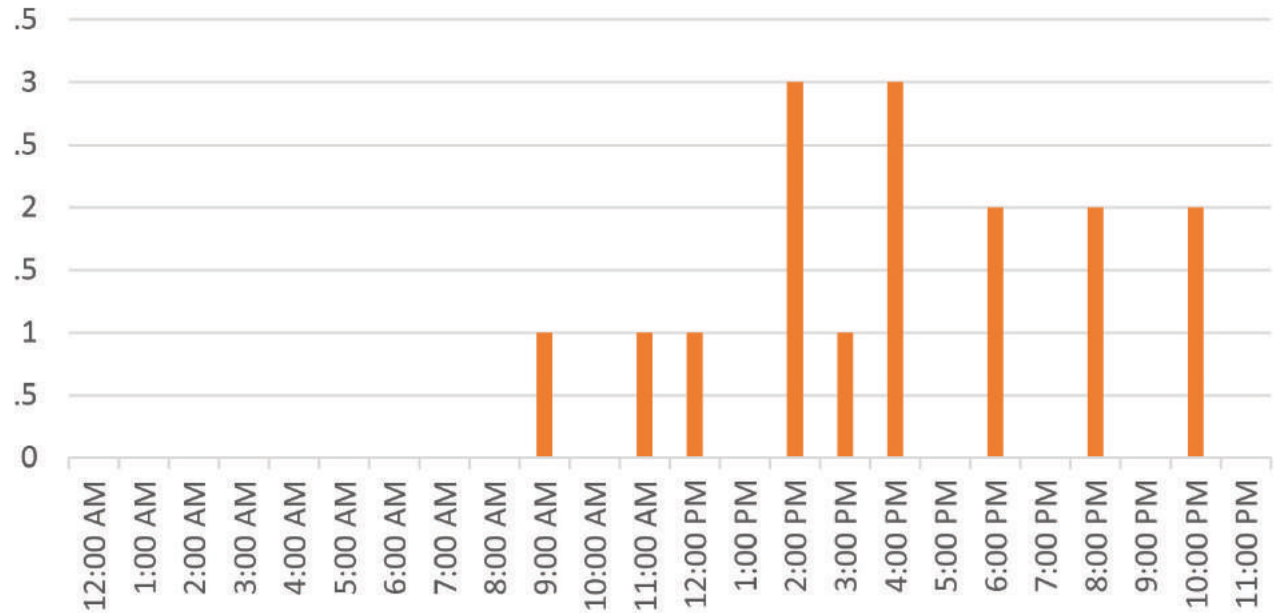


WHEN DO ACCIDENTS OCCUR?

The State data showed that pedestrian accidents in Wilmington are more likely to occur during daylight, with 81% during the day and 19% at night. Weather was not a factor in any of the State reports, indicating that visibility relating to weather and daylight is not a significant factor in pedestrian safety.

When observing patterns in the hours that accidents occur, the majority occur after 2:00 PM and slowly taper off after 6:00 PM. This suggests that many accidents are occurring during the period of high traffic volume following the work day.

Pedestrian accidents per time of day (ODT 2011-2015)

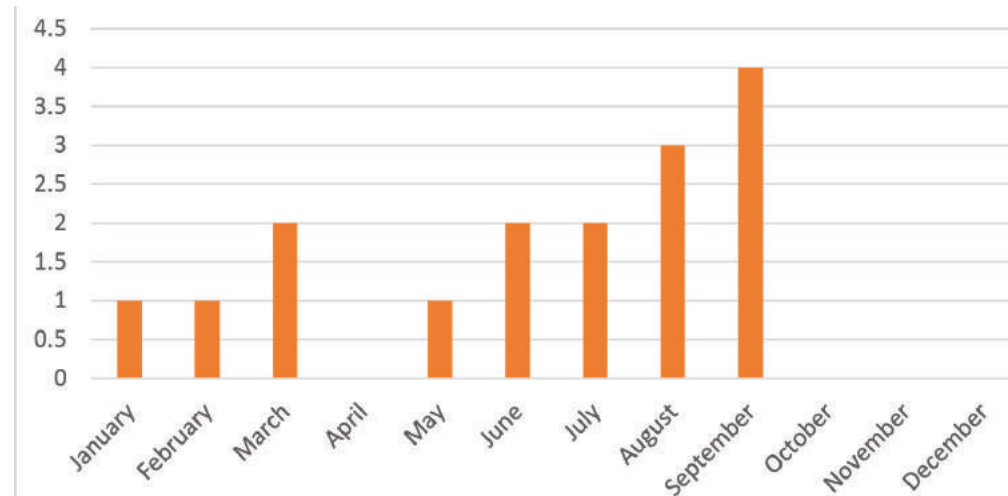


WHEN DO ACCIDENTS OCCUR? (CONT.)

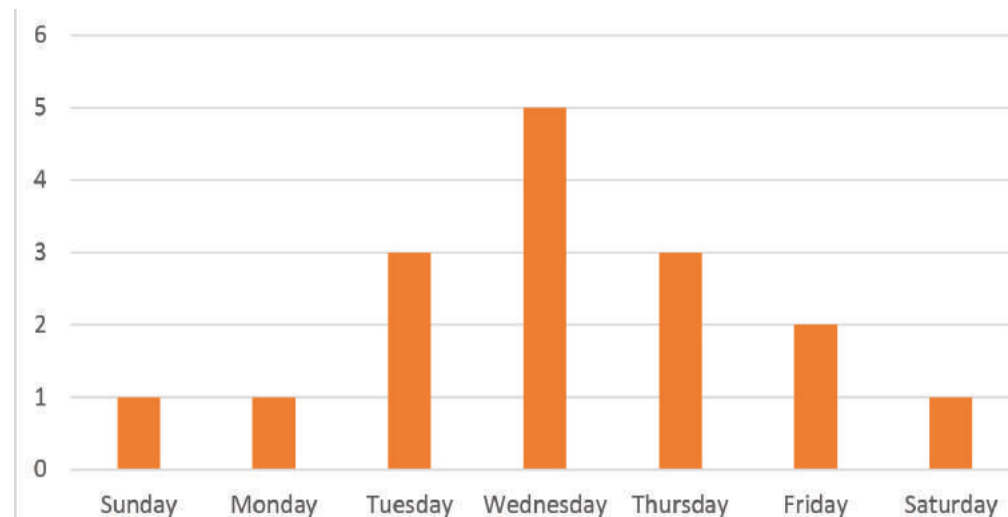
Accidents were most frequent during summer months leading into early fall with September being the highest month. This is likely due to warmer temperatures that encourage pedestrian activity.

The most frequent days of the week for accidents occurred between Tuesday and Friday, with Wednesday being the highest. The low numbers on Sunday and Monday are likely attributed to the number of businesses and offices that are closed on these days.

Pedestrian accidents per month (ODT 2011-2015)



Pedestrian accidents per day of the week (ODT 2011-2015)



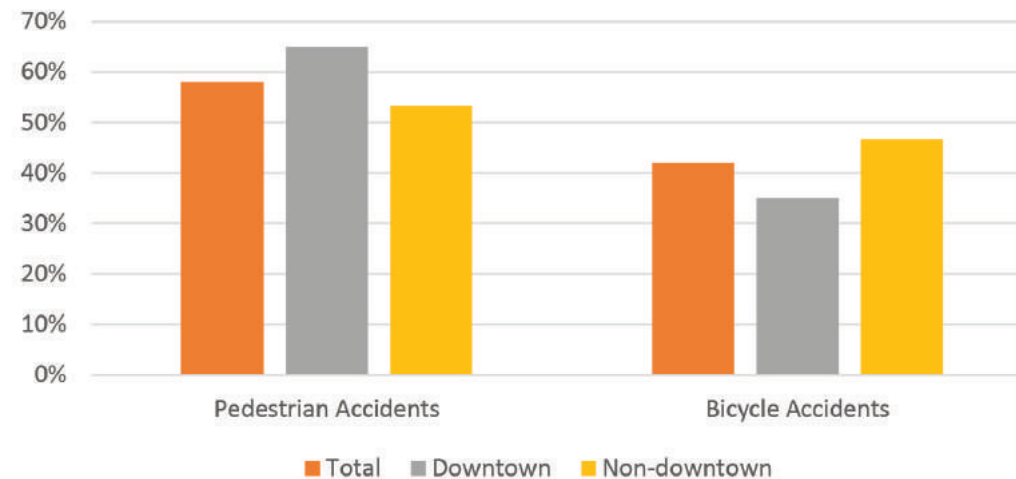
VICTIMS OF PEDESTRIAN ACCIDENTS

Cyclists make up 42% of pedestrian accidents throughout the City of Wilmington. However, this figure drops to 35% for cyclists involved in accidents downtown.

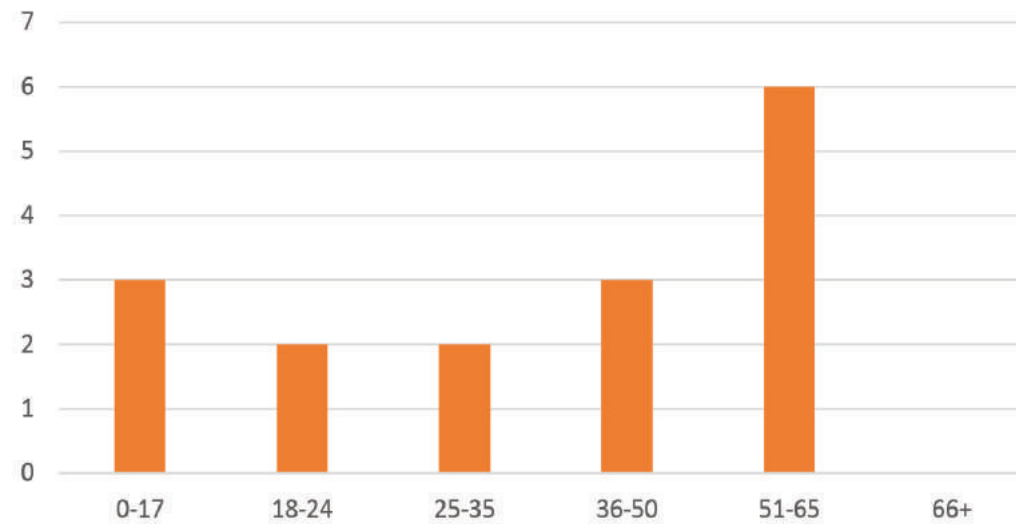
As bike trails in the City of Wilmington continue to expand and connect to regional networks, the number of cyclists in danger of being struck by a vehicle is expected to increase. For downtown Wilmington, the number of cyclists could increase as a result of the Urban Trail Connector to Wilmington College and the proximity to the Luther Warren Peace Path.

In relation to age and gender, State data it was found that 81% of accidents happened to men with women only accounting for 18%. In terms of age, the rate was highest for people age 51-65, with no record of anyone over the age of 66 being hit. The lowest rates of pedestrian accidents occur between the ages of 18 and 35.

Pedestrian vs. Bicycle Accidents (Wilmington Police Dept. 2003-2015)



Pedestrian accidents by age (ODT 2011-2015)



INTERSECTION AUDIT

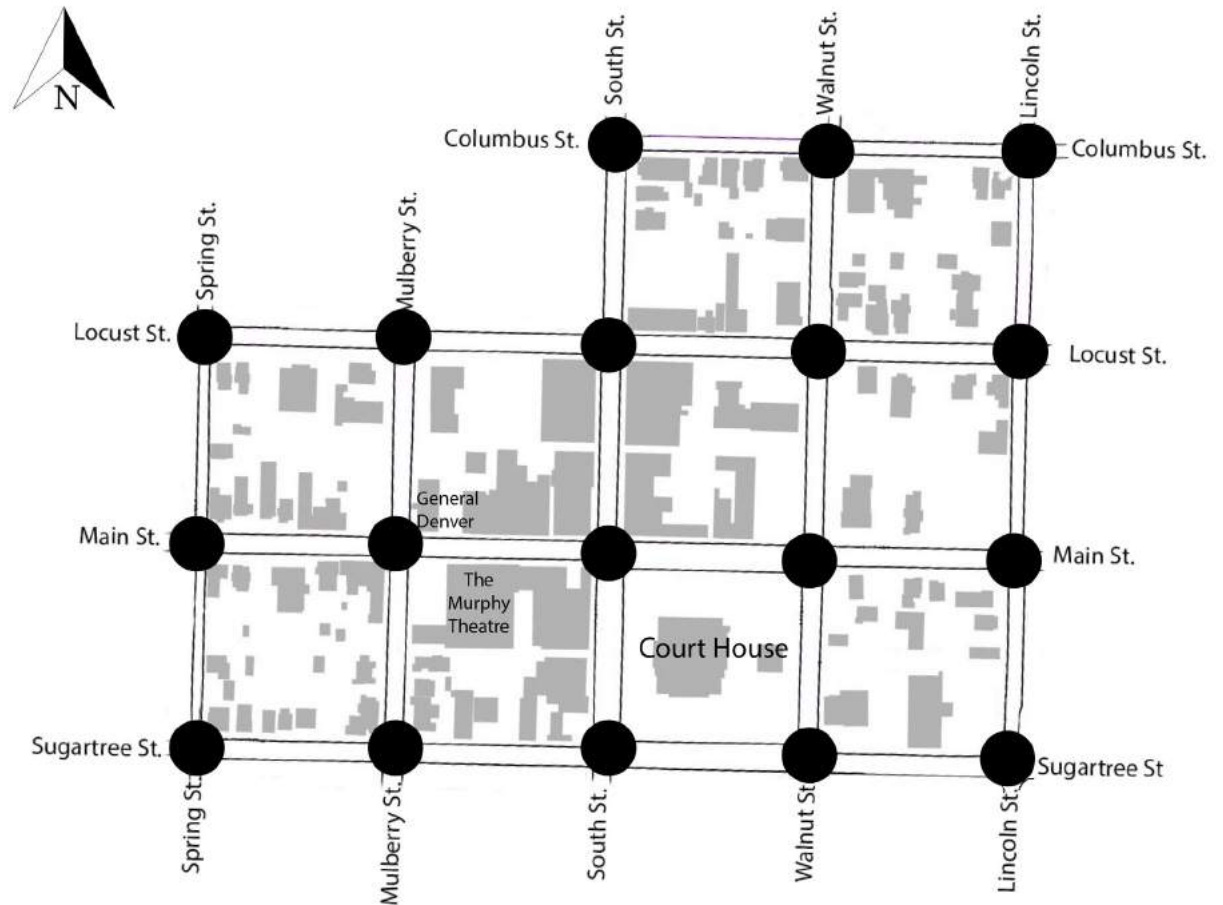
To understand the physical characteristics of downtown, each intersection within the study area was examined using a scoring criteria that measured safety, condition of infrastructure, and aesthetic quality.

The scoring criteria looked for five indicators at each intersection:

1. Speed of traffic
2. Signage
3. Crosswalk visibility
4. Condition of ramps
5. Length of time allotted to cross the street

Each intersection received a maximum of 25 points if it scored the highest for each indicator and a minimum of 5 if it received the lowest possible score for each indicator.

Intersections in study area

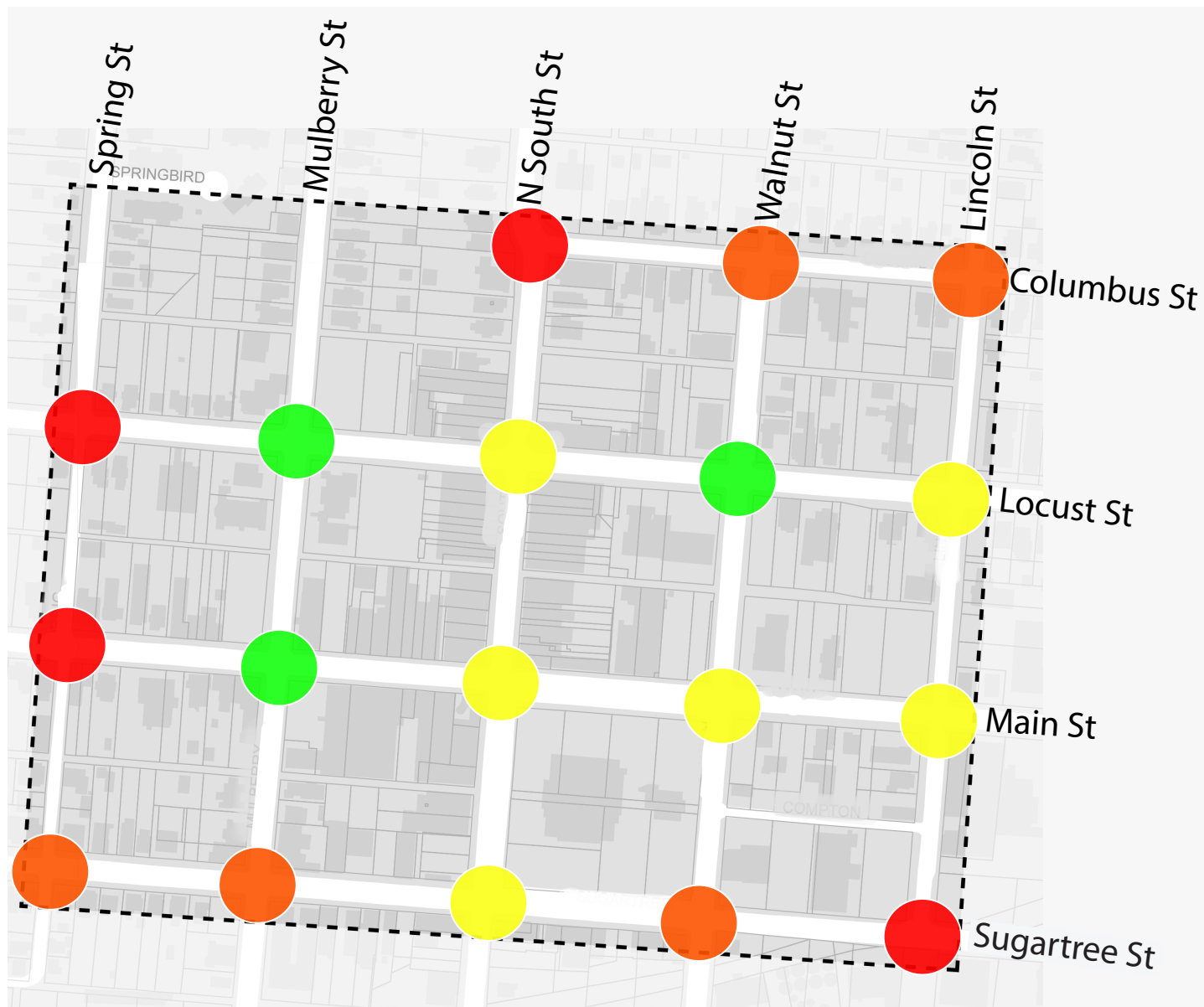


RESULTS OF INTERSECTION AUDIT

The audit produced a total of 3 excellent, 6 good, 3 fair, and 4 poor intersections.

LEGEND

- Excellent (20-25pts)
- Good (15-19pts)
- Fair (10-14pts)
- Poor (5-9pts)



EXAMPLES OF “EXCELLENT” INTERSECTIONS

Excellent intersections are safe for pedestrians by having clearly-marked crosswalks and an adequate amount of time given for crossing the street. These three intersections exhibit well-maintained infrastructure combined with narrower streets, therefore making a safe crossing experience.

Main and Mulberry



Locust and Mulberry



Locust and Walnut



EXAMPLES OF “GOOD” INTERSECTIONS

These three intersections have most of the necessary infrastructure, such as ramps, walking lights, and signage, but lack in a few areas.

For example, crossing Main and South on the south and east sides requires a longer distance than the north and west sides. On a street with the highest volume of traffic in the study area, this increases the risk of an accident.

With the Sugartree and South example, the crosswalks are not highly visible. The intersection of Main and Lincoln has well-maintained infrastructure, but is lacking a walking light.

Main and South



Sugartree and South



Main and Lincoln



EXAMPLES OF “FAIR” INTERSECTIONS

These examples of fair intersections have lower volumes of traffic but display a lower quality of infrastructure.

In all three examples, crosswalks are nonexistent, along with crossing lights and signage. There is also an absence of ADA (Americans with Disabilities Act) ramps, making it difficult for those with disabilities to cross the street.

Sugartree and Mulberry



Columbus and Lincoln



Sugartree and Spring



EXAMPLES OF “POOR” INTERSECTIONS

Poor intersections discourage pedestrians from crossing the street and put them in harm’s way when doing so.

The intersection of Sugartree and Lincoln has a low volume of traffic but lacks in every aspect of safety-related infrastructure. There is an absence of crosswalks, signage, walking lights, ADA ramps, and sidewalks are incomplete.

The two examples at the bottom of the page pose different problems. These are two intersections located on two busy streets: South Street and Main Street. While sidewalks are present, there are no crosswalks or walk lights.

Sugartree and Lincoln



Columbus and South



Main and Spring



BLOCK AUDIT

Same as the intersection audit, the blocks were evaluated based on safety, condition of infrastructure, and aesthetic quality.

However, the scoring criteria was modified to look for five indicators that affect block quality:

1. Sidewalk condition
2. Lighting
3. Speed of traffic
4. Landscaping
5. Shade trees

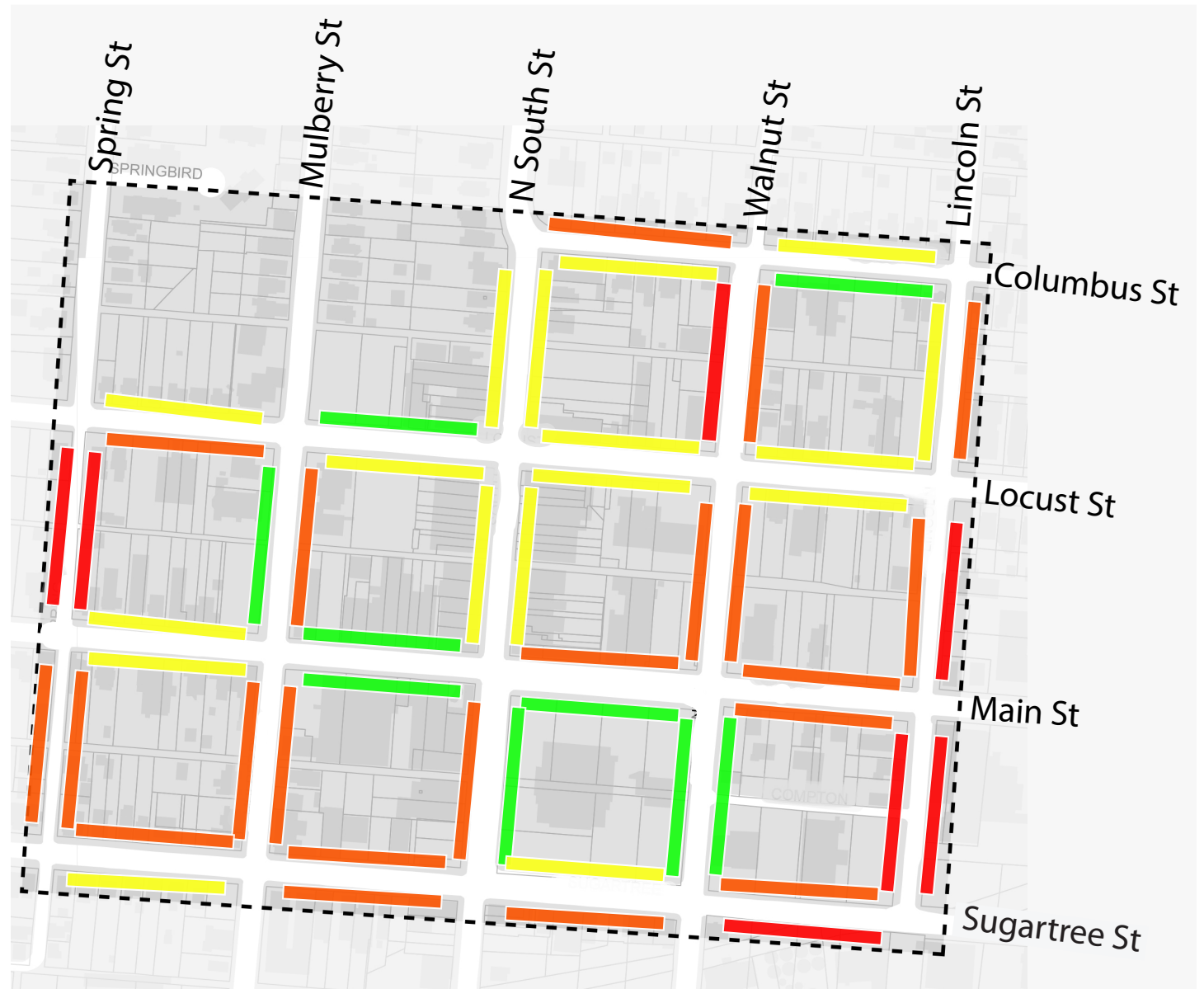
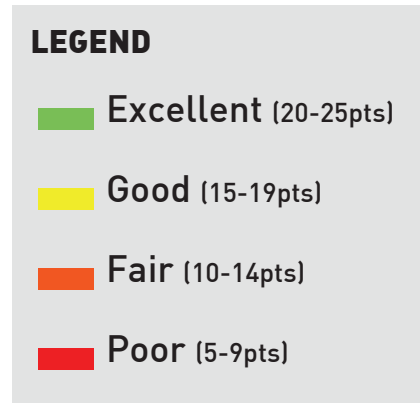
Each block received a maximum of 25 points if it scored the highest for each indicator and a minimum of 5 if it received the lowest-possible score for each indicator.

Blocks in study area



RESULTS OF BLOCK AUDIT

The audit produced a total of 9 excellent, 17 good, 19 fair, and 6 poor blocks.



EXAMPLES OF “EXCELLENT” BLOCKS

Excellent blocks are pleasant to walk down, have the appearance of being safe, and have limited interference between vehicles and pedestrians.

These blocks offer shade trees, landscaping, adequate lighting, maintained sidewalks, and a variety of businesses to interact with. These elements help to buffer the above-average volume of traffic on these streets. Although noise was not measured in this study, Main between South and Mulberry has much lower levels of noise than the other two examples. This is due to the lack of through trucks at this location.

Main between South and Mulberry



Locust between South and Mulberry



Main between South and Walnut



EXAMPLES OF “GOOD” BLOCKS

Good blocks are pleasant for the pedestrian but require some improvements.

The first example, South between Locust and Main, benefits from good landscaping and a narrow street. However, the speed and noise of traffic detracts from the experience.

With the second example (bottom-left), traffic speed is less of a problem but the block lacks in landscaping and shade.

The third example (bottom-right), has excellent shade and landscaping but the volume of traffic and the width of the road negatively affect the block.

South between Locust and Main



Main between Spring and Mulberry



South between Columbus and Locust



EXAMPLES OF “FAIR” BLOCKS

Fair blocks begin to negatively affect the appearance of the safety and attractiveness of a block.

In each of these examples, manicured greenery is almost nonexistent on the street. Traffic does not pose much of an issue, but the condition of sidewalks is very poor.

With Lincoln in particular (top), the “park area” of street has been filled in with pavement. Park area is the grassy area that separates the sidewalk from the street and can be landscaped with trees and shrubs. With this example, Lincoln Street shows a narrow sidewalk bordered by a parking lot and a filled-in park area.

Lincoln between Locust and Main



Sugartree between Mulberry and South



Mulberry between Main and Sugartree



EXAMPLES OF “POOR” BLOCKS

Poor blocks often have appearances of crime, force pedestrians to walk on the street, and are difficult for people with disabilities to traverse.

The first two examples (top and bottom-left) have no sidewalks. In these pictures, the street ambiguously blends into the adjacent lots.

These blocks are uninviting for pedestrians because they are composed of pavement, gravel, and parking lots, as opposed to greenery and safe sidewalks to walk on.

Sugartree between Lincoln and Walnut



Lincoln between Sugartree and Main



Walnut between Columbus and Main



WHERE ACCIDENTS OCCUR

After the blocks and intersections were audited and compared to the accident data maps, it became clear that an area with good block and intersection scores did not correlate with greater safety. In fact, the intersections that scored the best on the intersection audit were some of the City's most dangerous intersections, and many of the intersections that were the worst by the scoring guidelines had no accident reports at all.

This discrepancy suggests that the speed and volume of vehicular traffic plays a large role in pedestrian accidents. However, the role of adequate infrastructure should not be discounted. There are two intersections with relatively low volumes of traffic that have recorded accidents: Sugartree and Mulberry Street and Sugartree and Spring Street. Both of these intersections do not have visible crosswalks.

Map of Pedestrian Accidents (ODT 2003-2015)

*Larger dots equate multiple accidents in the same location



In addition to traffic speed and volume, one-way streets are a likely contributor to accidents. Of the 20 recorded pedestrian accidents downtown, 16 of them occurred on one-way streets (80% of downtown accidents). Only a total of three accidents were recorded on intersections with poor crosswalks, all of which are on Sugartree Street.

There is currently a lack of data on the safety impacts of converting to one-way streets. Further research should be conducted to investigate the benefits of converting to two-way streets in the context of Wilmington.

Legend

- 10,000-20,000
- 8,000-10,000
- 6,000-8,000
- One-way street

WILMINGTON'S MOST DANGEROUS INTERSECTION: SOUTH AND MAIN

Six pedestrian accidents occurred at the intersection of South and Main between 2003 and 2015. This is the highest rate in the entire City of Wilmington, and requires further analysis. This intersection is significant because the three-lane width of Main Street going east from South Street affects a variety of safety conditions.

LENGTH OF CROSSWALK

The distance required to cross Main and South is further than any intersection in the study area. This increases the amount of time spent in the roadway.

ONE-WAY STREET

Drivers traveling on Main Street become less aware since they are not looking for oncoming traffic.

HIGH TRAFFIC VOLUME

The highest volume of traffic in the study area travels north from South Street and turns right onto Main Street.

WIDTH OF ROAD

This portion of Main Street initiates the widest street in the downtown: three lanes. Vehicles travel noticeably faster once they enter this area, especially due to the declining slope. This condition is a likely contributor to accidents at the next intersection of Main and Walnut.

Looking North from South Street



Looking East from Main Street



Elements That Drive Pedestrian Activity

While this plan pays careful attention to urban design elements that affect pedestrian safety, the secondary goal is to make downtown a memorable and enjoyable place to visit. This is directly tied to safety, but there are other methods for making downtown Wilmington a destination.



In this section, the study area will be analyzed using factors that increase pedestrian activity, based on a study from 2013 by Reid Ewing of the University of Utah. This study analyzed many factors that contribute to pedestrian activity and found the following six to be the most important drivers:

1. Windows overlooking the street
2. Continuous building facades forming a street wall
3. Active street frontage
4. Proportion of historic buildings
5. Number of buildings with identifiers
6. Number of pieces with street furniture

Of these six factors, windows overlooking the street was found to be the most important factor driving pedestrian activity. Surprisingly, factors that did not make the list included categories like landscaping and public art.

The common element between the successful factors was that they promoted ground-floor retail up to the street curb with transparent facades. Each of these factors have been used to analyze downtown Wilmington, with the exception of proportion of historic buildings since nearly every building in downtown is considered historic.

WINDOWS OVERLOOKING THE STREET

This Factor measures the proportion of buildings along a street that have transparent windows on the first floor. During the survey, buildings that continuously have curtains or blinds hanging in the windows were not counted. This factor contributes to the idea of transparency, which makes a downtown more attractive for shoppers but mostly for the safety aspect. With people visible in the windows of buildings, the idea of committing a crime in that area dramatically decreases.

Downtown Wilmington scores very poorly on the transparency factor. The most transparent street segment is along Main St. between Mulberry and South, where the historic Murphy Theatre and many local businesses are situated.

Building facades with transparent windows

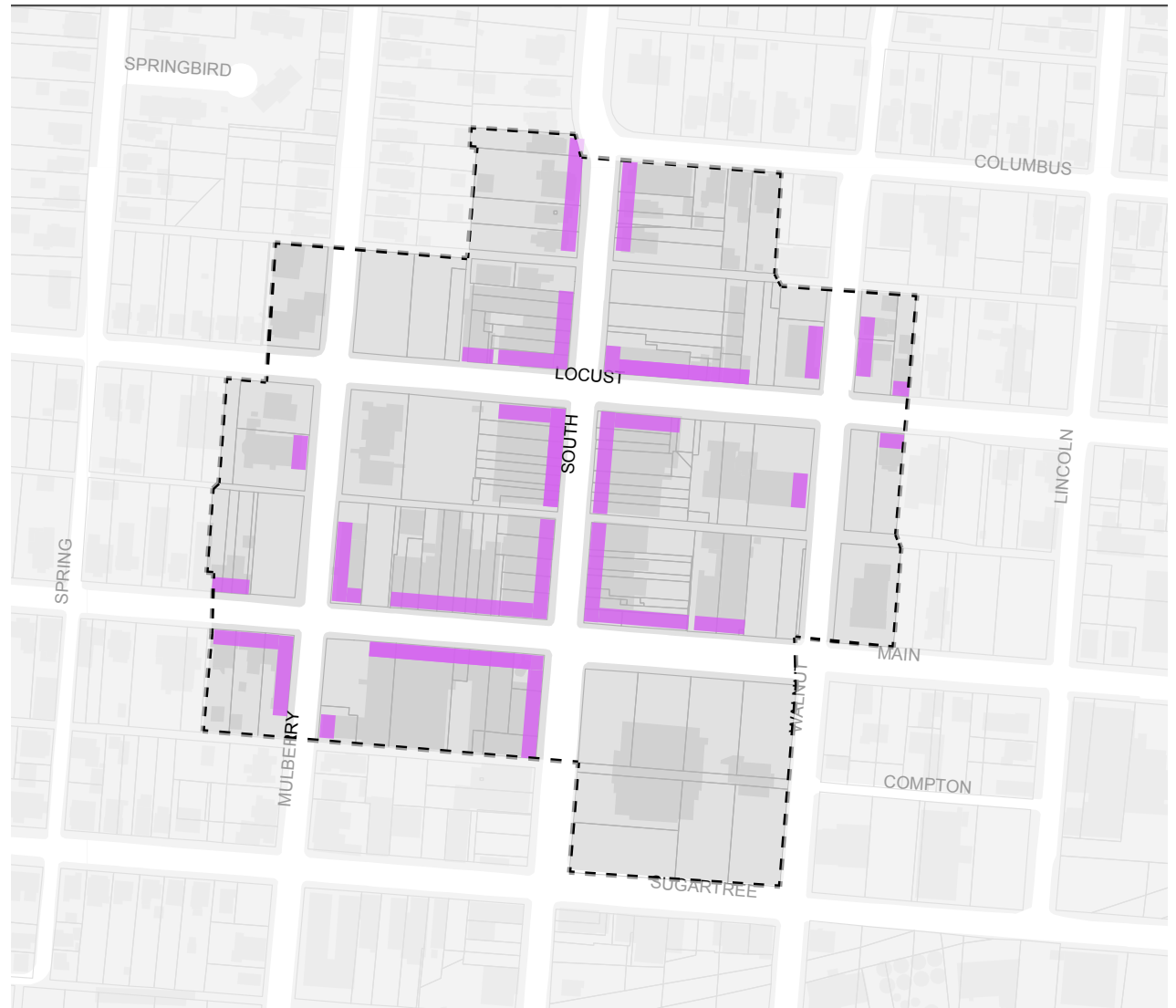


CONTINUOUS BUILDING FACADES FORMING A STREET WALL

This factor is defined as the proportion of buildings that are built up to the sidewalk, limiting the distance between the pedestrian and the building. Driveways, parking lots, and public parks do not count as part of the streetwall. The rationale behind the success of continuous streetwalls is that they create a predictable sense of enclosure and puts the pedestrian closer to a potential storefront. When a large number of buildings are set back from the street, it becomes less desirable to get around on foot.

Downtown Wilmington scores best in this category on the Municipal Building block, the Peoples Bank block, and the Murphy Theatre block. As one travels further outward from these blocks, setbacks become greater and parking lots become more prevalent.

Continuous street walls



ACTIVE STREET FRONTAGE

This factor determines the proportion of street frontage that has active uses, such as restaurants, shops, public parks, and others that would generate pedestrian traffic. Areas that are determined to be inactive include vacant lots, blank walls, parking lots, and offices with no apparent activity.

For downtown Wilmington, the results showed a slight correlation to buildings with windows, seeing that active uses would be more likely to have a transparent facade to attract customers. There was, unsurprisingly, a large number of active uses on the South Street segment with the Murphy Theatre, which also scored best for transparency. Another notable pattern is the large number of active uses along Main Street and South Street on the same block.

Active street frontages



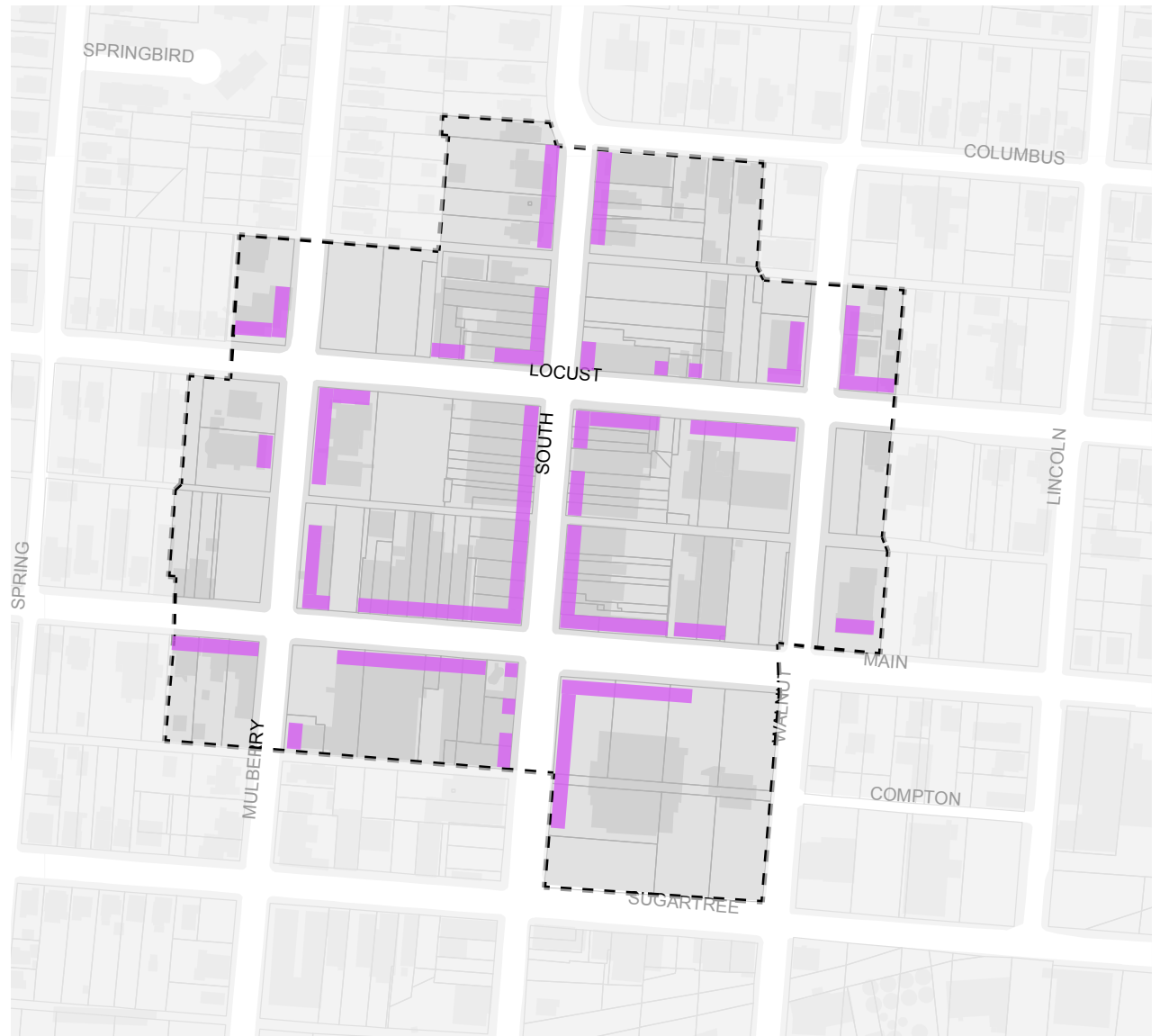
NUMBER OF BUILDINGS WITH IDENTIFIERS

This factor is defined as buildings that can be recognized by certain features, such as the steeple on a church or the sign in front of a restaurant. This goes with the idea of making the urban environment legible and easy to navigate, similar to the effect that streetwalls have on the pedestrian experience.

In general, most of the buildings in downtown are easy for pedestrians to discern what the use is. That being said, some building identifiers are much easier to see than others.

For example, many businesses do not have hanging signs, which prevents a pedestrian from being able to read it until they are standing in front of it. When looking west at the intersection of Main and South, the Murphy Theatre and the General Denver are the only identifiable signs since they extend outward from the buildings.

Buildings with identifiers



NUMBER OF PIECES OF STREET FURNITURE

This factor measures the amount of street furniture along a given street segment. Street furniture is an often overlooked object of the streetscape that is a powerful driver of pedestrian activity.

When given more seating options along a street, pedestrians, shoppers, and downtown workers are more likely to stop along their route and spend more time downtown. Additionally, it is an important asset to have for elderly or disabled who may require to take breaks more often.

Wilmington has a large deficit in the amount of seating options downtown. The most seating options are along Main St. which are supplied by public and private owners. While the Clinton County Courthouse has a high proportion of seating, it received only moderate levels of use to do the single use of the entire Courthouse block.

Seating



Public Engagement

INTRODUCTION

Public input for the plan was hosted in the form of a charrette (also known as a planning workshop), at the Wilmington Municipal Building on April 13th, 2016. A total of fifteen people attended.

The event was kicked off by a presentation to explain that the focus of the plan is on pedestrian safety and the overall experience downtown. The facilitators explained that the charrette would take two hours and would be composed of group discussions, a walking tour of downtown, and an exercise comparing various street designs.

The input from the public confirmed much of the data collected for this plan. Participants had a good perception of where accidents occur, what the infrastructure needs are, and what areas require improvement.



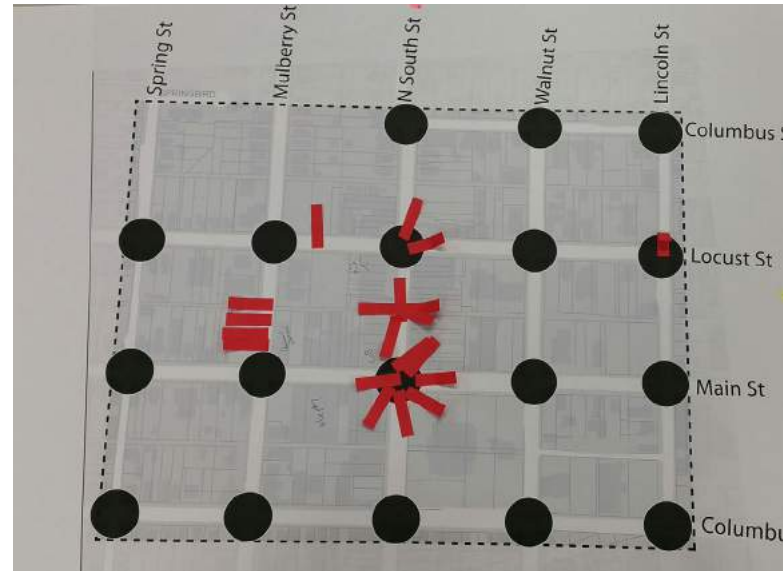
PERCEPTION OF ACCIDENTS

One of the first exercises tested people's perceptions of where accidents occur. Participants were asked to place red stickers on a map where they thought the most accidents happen. Afterwards, they were shown where accidents actually occur, based on the Police Department data.

The exercise showed that most people in the group do not feel safe on South Street between Locust and Main. The discussion that followed brought up the topic of jaywalking that occurs on Mulberry Street near the General Denver. A few people noted that they see this area as prone to accidents, although there is no data to confirm this.

Dangerous intersections that were neglected included three intersections on Sugartree Street and three on Main Street.

Perception of where accidents occur



Where accidents actually occur (WPD 2003-2015)



WALKING TOUR

The second portion of the charrette was an interactive walking tour of downtown. Participants were split into groups of 2-3 and covered different routes so that the whole study area could be discussed afterwards.

The activity yielded interesting discussions about the disparities in infrastructure condition from one street to the next. Residents pointed out that some intersections had leftover poles from what used to be a light pole or a crosswalk light. People also expressed complaints about the negative appearance of overhead wires.

Some participants also expressed that they do not feel safe walking on Sugartree Street at night. Part of the problem was attributed to poor lighting, but this turned out to be a false perception since every street downtown is lit at night by public street lights. A more-likely scenario for the dangerous perception of Sugartree is the poor infrastructure and lack of active building facades.

Walking tour on Sugartree Street



Uneven sidewalk found during tour



Street comparison exercise



STREET COMPARISONS

The last activity involved input from the entire group about the types of street designs they favored. A total of ten comparisons were shown to the group which led to a discussion about which streetscape elements they liked or disliked, and why.

Participants generally favored greenery, outdoor seating, narrow streets, and brick material in sidewalks and crosswalks. They were also fond of the use of curbed bumpouts at intersections.

Recommendations

After collecting data on existing conditions, pedestrian accidents, and public opinion, recommendations were developed to reflect the goal of enhancing the safety and experience of downtown. These recommendations are shown on a chart (right) and organized by location, cost, urgency, and effectiveness.

In terms of location, Main Street and South Street demand the most work for pedestrian safety. Given that these streets experience high volumes of traffic and are prone to the bulk of pedestrian accidents, they warrant the most improvement. Sugartree Street is also mentioned extensively, but predominantly for the purposes of bringing the infrastructure up to an acceptable standard and to encourage more pedestrian activity.

In terms of cost, sidewalk improvements and the addition of bumpouts will be highest due to the

materials and labor involved. Higher urgency was assigned to items that directly correlated to pedestrian safety, such as good sidewalk condition, and lower urgency was assigned to items that enhanced the downtown experience.

Overall, the effectiveness of each improvement is not substantial, but it is important to keep in mind that each improvement works together in tandem to create an environment that makes both drivers and pedestrians more aware. With the increased number of bike trails, small businesses, residences, and events downtown, Wilmington can expect to see many more pedestrians in the future. To accommodate this influx, downtown must maintain adequate infrastructure, proactive urban design, and a memorable sense of place.

Recommendations chart

Location	Project	Cost	Urgency	Effectiveness
South St.	Bumpout	\$10,000-\$30,000	Moderate	Moderate
South St.	Pedestrian crossing sign in middle of road	\$200-\$500	Moderate	Low
Main St. and South St.	Bumpout	\$10,000-\$30,000	High	Moderate
Main St. and South St.	Reversed Angled Parking	Minimal	High	Moderate
Sugartree St.	Infill Development	N/A	Low	Low
Sugartree St. and Locust St.	Update/introduce sidewalks	\$45,000	High	Moderate
Sugartree St. and Locust St.	Update/introduce landscaping	N/A	Moderate	Low
Sugartree St.	Privacy fence on corner of Lincoln and Sugartree	N/A	Low	Low
Sugartree St.	Reversed Angled Parking at south and north sides of Courthouse	Minimal	Low	Moderate
Spring, Main and South, Main and	Update/introduce new striped crosswalks	Minimal	High	Low
Locust St. and Lincoln St.	Pedestrian countdown timer	\$4,000	Moderate	Moderate
Downtown	Introduce leading intervals at crosswalks/increase walk times	None	High	Moderate
Downtown	Promote hanging signs for businesses	N/A	Low	Low
South St. Sugartree St.	Benches	\$500-\$1,000 Each	Moderate	Low
South St., Locust St., and Main St.	Bike sharrows	Minimal	Low	Moderate
Main St.	2 bike racks	\$200-\$1,000	Low	Low

INTERSECTION OF SOUTH ST. AND COLUMBUS ST.

This intersection poses a safety risk due to the volume of traffic traveling on South Street and the large width of the road. Currently, there is no crosswalk or walk light at this intersection.

Placing a striped crosswalk at this location will provide pedestrians a safe place to cross the street and give a cue to drivers that they are entering downtown. Multiple accidents have been reported at the next intersection of South and Locust. Therefore, any measures to slow traffic beforehand should be taken.

Before



After



INTERSECTION OF MAIN ST. AND SPRING ST.

Main Street between Spring and Mulberry has several businesses on both sides of the street and attracts a sizable number of pedestrians, yet the only location designated for pedestrians to cross is at the intersection of Main Street and Mulberry Street.

In order to prevent jaywalking and give pedestrians a designated place to cross the intersection, a crosswalk should be placed at Main Street and Spring Street. This also functions as a gateway to downtown, similar to the proposed crosswalk at South Street and Columbus Street.

Before



After

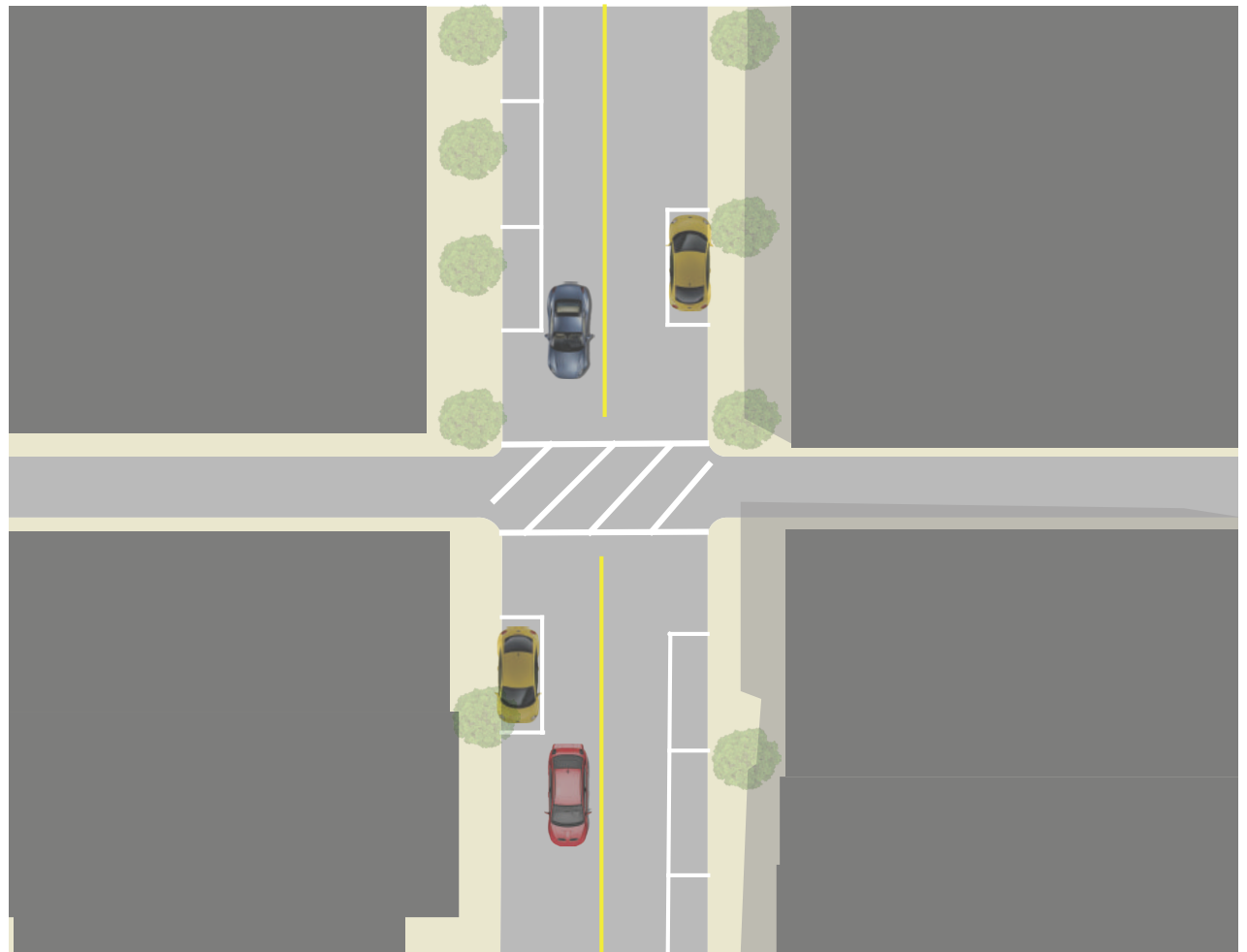


SOUTH ST. CROSSWALK

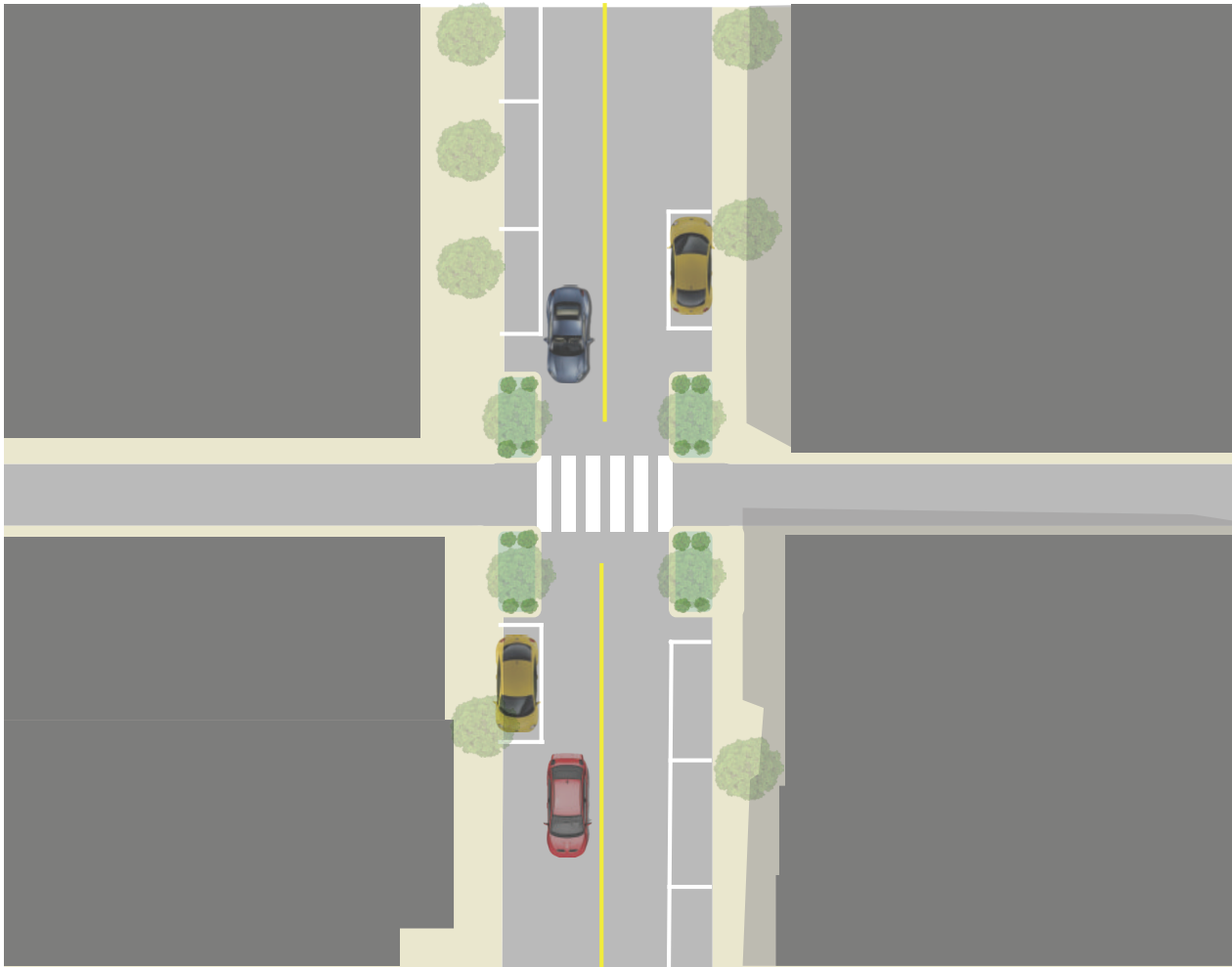
The crosswalk on South Street between Locust and Main was identified as a place where many people felt unsafe crossing. Low visibility was one of the largest issues with the crosswalk due to the parallel parking on both sides of the street and that pedestrians preparing to cross are often hidden from drivers behind parked cars.

Placing bumpouts on both sides of the street would serve several functions. First, it would reduce the width of the road and force drivers to move slower. Second, it would make pedestrians more visible, and lastly, it would reduce the length of the crosswalk.

Before



After



In addition to adding bumpouts, the crosswalk would be restriped with the “zebra” style crossing with higher visibility.

A pedestrian crossing sign would also be placed in the middle of the crosswalk to contribute to driver awareness and pedestrian safety.

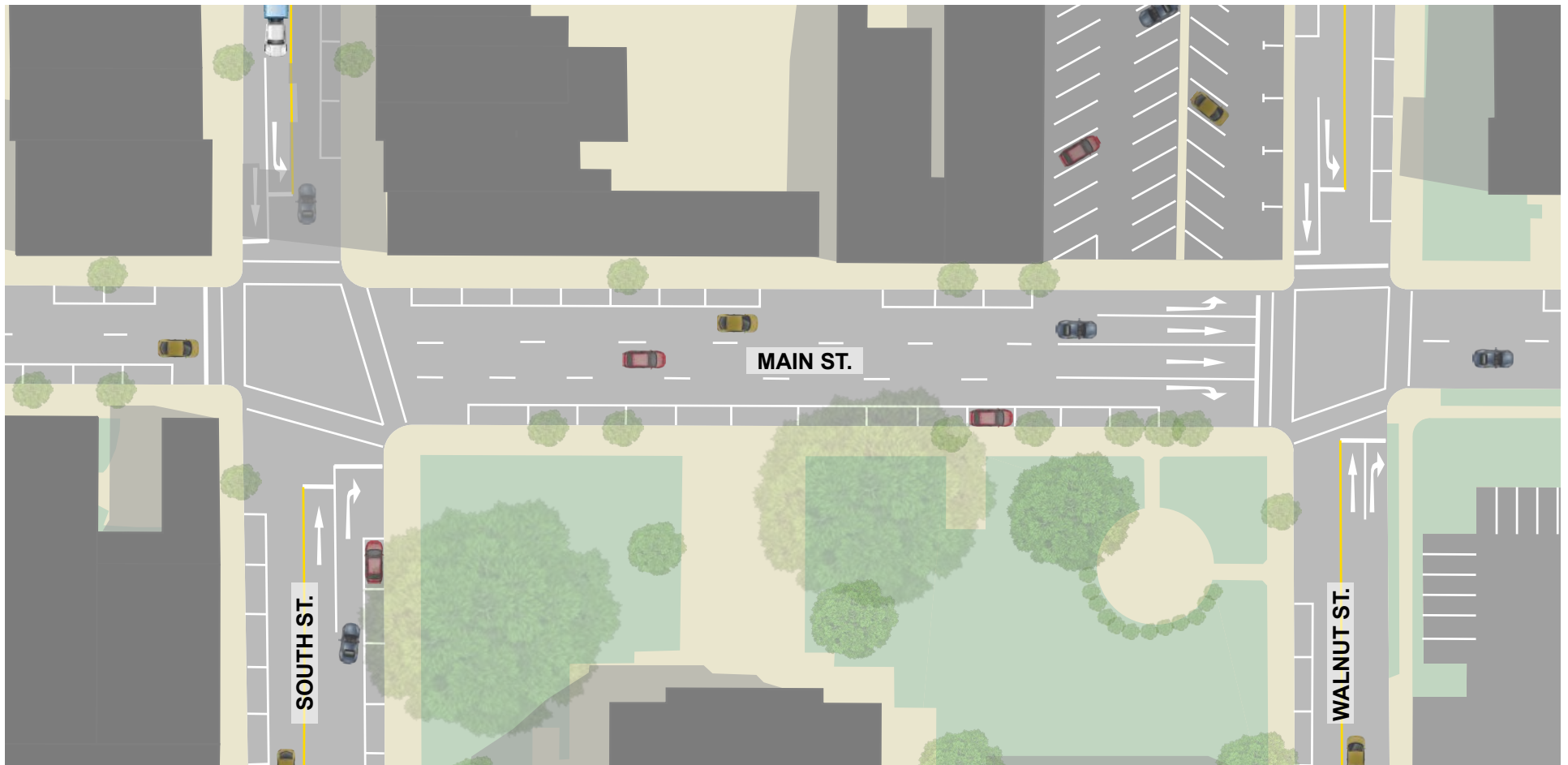
Low-cost pedestrian crossing sign



MAIN ST. ROAD DIET

The intersection of Main Street and South Street had more pedestrian accidents than any other location in downtown and required the most drastic changes when considering how to make it more pedestrian friendly. The most significant change is the removal of one lane of traffic on Main Street east of South Street. Currently, Main Street adds an extra lane at the segment between South and Walnut. This additional lane creates confusion and the large width of the road enables drivers to speed.

Before

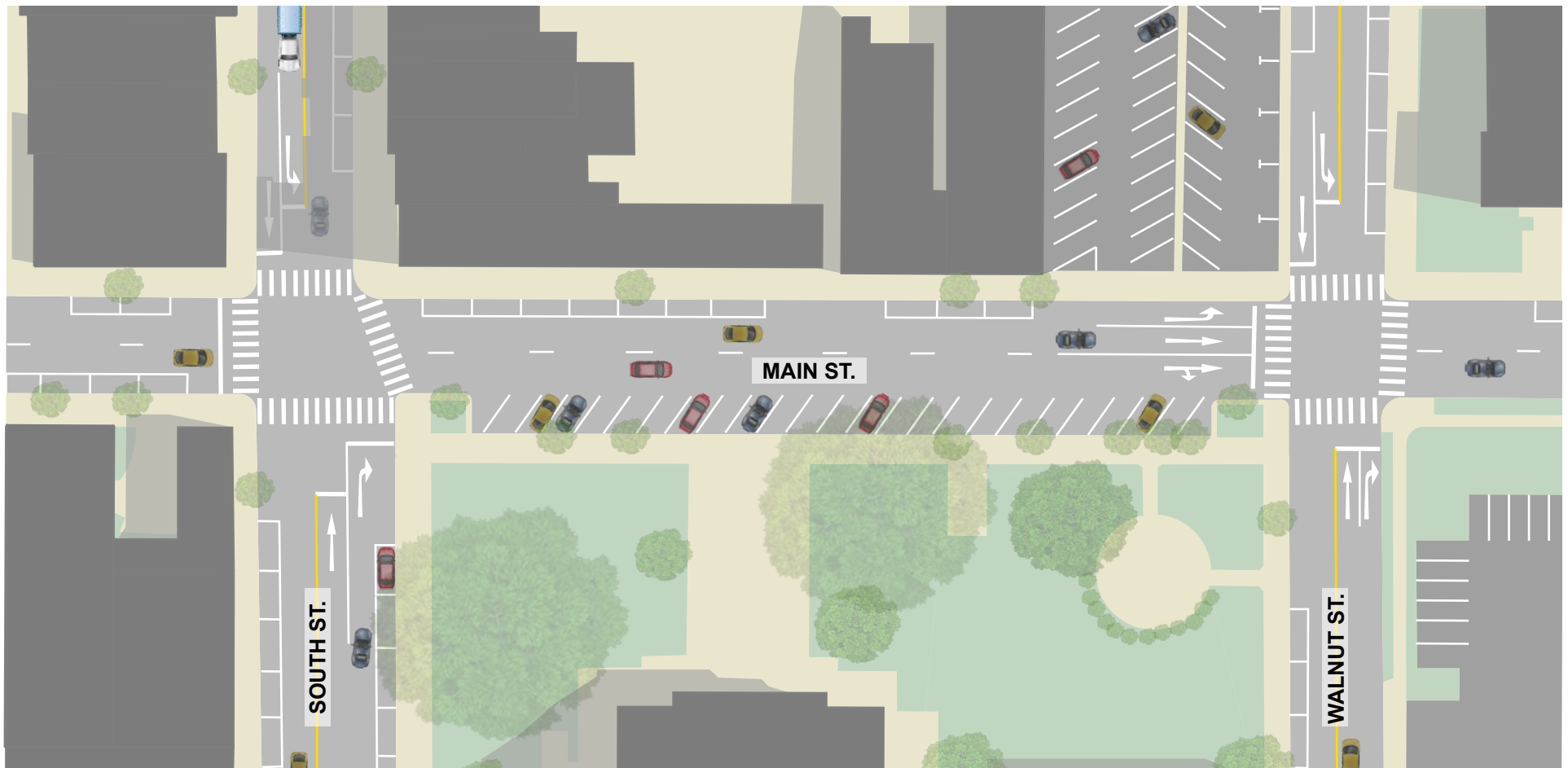


The addition of reverse-angle parking along the south side of the block accounts for the extra space left when removing the lane while also increasing the parking supply. This would provide nine extra parking spaces to the fourteen that currently exist. A curb bumpout was also added on the corner, making the distance of the crosswalk shorter and increasing the visibility of a pedestrian crossing the street.

Summary:

- Reduced road width
- Curb bumpouts
- Removal of one lane of traffic
- Reverse-angled parking
- 9 new parking spaces
- Zebra-striped crosswalks

After



MORE ON BUMPOUTS

The bumpouts proposed for South Street and Main Street would help mitigate safety issues and contribute to the aesthetics of downtown.

Bumpouts decrease the pedestrian crossing distance, improve the pedestrian's visibility for drivers, and provides a visual cue to drivers that they are in a low-speed area.

While this plan proposes permanent bumpouts, temporary and low-cost solutions can be implemented to test effectiveness at each location.

The cost of a permanent bumpout can vary from \$10,000-\$30,000 each, with the average being \$13,000. Alternatively, the painted bumpouts with knockdown sticks would come at a minimal cost and could be used at more intersections.

Permanent bumpout



Painted bumpout with landscaping



Low-cost bumpout



REVERSE-ANGLE PARKING

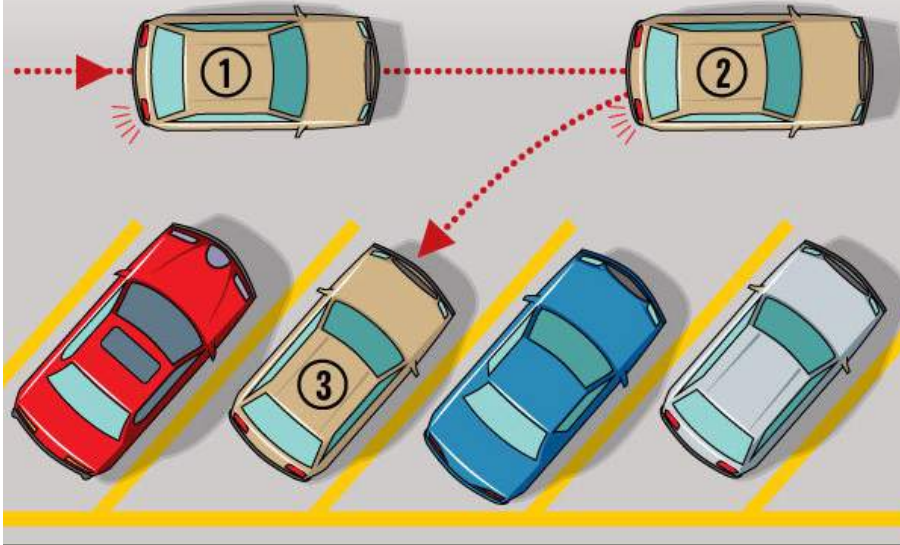
The reverse-angle parking proposed for the north and south sides of the Courthouse is safer for drivers and easier than the existing parallel parking. The safety benefits include the following:

1. Removes the difficulty of backing out into oncoming traffic
2. Increases the visibility of motorists and cyclists when pulling out of a space
3. Positions the passengers of the vehicle to exit towards the sidewalk rather than the roadway

Since this new parking method will be a learning curve for some, it would be best implemented on the south side of the Courthouse at first. After drivers become accustomed to the change, the parallel parking on the north side can then be converted to reverse-angle parking.

REVERSE ANGLE PARKING

1. Signal for turn
2. Stop just past the parking space
3. Back into the space, using side mirrors to view lines



(Edward Riojas/MLive.com)

Reverse-angle parking with bumpouts



SUGARTREE ST. PROPOSALS

Sugartree Street is located one block south of Main Street yet has the poorest quality of pedestrian infrastructure in the downtown. Sugartree Street has seen change in the past decade due to the arrival of CVS Pharmacy, Xidas Park (formerly the Manhattan Lounge), and the Urban Trail Connector. These efforts are largely motivated by the potential of Sugartree Street to become a more walkable, mixed-use corridor by capitalizing on its unique character, proximity to downtown businesses, and low traffic volume.

One of the challenges with the corridor is that it transitions to industrial land uses east of Walnut Street with businesses such as Buckley Brothers and the Champion Bridge Company, which do not cater to walkability. The street also shows no signs of residential living until west of Mulberry. In addition to these factors, Sugartree Street has a negative perception of safety at night, likely due to the lack of active storefronts and residential properties.

Eastern portion of Sugartree St. and Lincoln St.



SUGARTREE ST. PROPOSALS (CONT.)

To address concerns of safety and to promote a more vibrant corridor, this plan proposes the following changes:

1. **BRING SIDEWALKS AND CROSSWALKS UP TO STANDARD:** This is critical to improving pedestrian safety. Currently, every crosswalk along Sugartree is either faded or nonexistent. The condition of the sidewalks degrades dramatically traveling west from Walnut Street, to the point that it disappears completely near and on Lincoln Street.
2. **BEAUTIFY THE CORNERS OF SUGARTREE STREET AND LINCOLN STREET:** Directly in front of the Clinton County DMV, this corner lacks the necessary sidewalks and landscaping to create a functional and walkable pedestrian experience. On the east side of Lincoln Street at this corner is the back lot of Joe's Java, while the west side is the Fraternal Order of Eagles parking lot. Both sides of the street would benefit from new sidewalks, street trees, and potentially a privacy fence for Joe's Java back lot to enhance the look of the street.
3. **REVERSE-ANGLE PARKING SOUTH OF COURTHOUSE:** This existing angled parking south of the courthouse should be converted to reverse-angle parking to reflect the identical modification proposed for north of the courthouse. Doing so will help drivers to avoid confusion while parking downtown and create a safer experience.

Northeast corner of Sugartree and Lincoln



Looking north down Lincoln St.



ADJUST TIMING OF WALK LIGHTS AT INTERSECTIONS

Safety at intersections with pedestrian signals can be improved by increasing walk times and implementing leading intervals, which is where the “walk” symbol is given many seconds before the vehicle in the parallel lane is given a green light. This gives the pedestrian an additional head start to get across the road before the vehicles begin turning into the lane. The National Association of City Transportation Officials (NACTO) estimates that implementing leading intervals can result in a 59% reduction in pedestrian accidents.

INCREASE VISIBILITY OF DOWNTOWN SIGNAGE

One of the points made during the public engagement portion of this study was that businesses’ signs are difficult to see while driving through downtown. Even as one is walking down Main Street, for example, they would have trouble identifying a sign until they are right across from the building. A good way to counter this is to encourage business owners to hang signs perpendicular to the building, similar to the sign in front of The General Denver. As long as new signs conform to the historic downtown character, they can help heighten the profile of each business.

Perpendicular hanging signs



INCREASE AVAILABILITY OF SEATING OPTIONS

Given that seating is one of the driving factors behind pedestrian activity, introducing more seating options downtown would benefit the area and create a greater incentive for people to linger. In addition, increasing seating also creates a better environment for elderly and disabled who require more frequent breaks while walking.

Currently, Main Street contains the majority of public seating downtown. South Street would see significant benefit from new seating due to the number of businesses along it, while Sugartree Street also poses a good opportunity to expand seating options. While Sugartree Street has fewer businesses than South Street, it remains much quieter and

is connected to two pedestrian-oriented amenities: the Urban Trail and Xidas Park.

Before investing in permanent seating, it may prove beneficial to study these areas by placing temporary seating to gauge whether seating would be utilized or not. This is also known as tactical urbanism, which uses methods of low-cost improvements to the built environment that can potentially turn into permanent changes led by a city administration. One of the most popular initiatives of this movement is the “parklet”, which is a temporary public space that is constructed in a parking space.

Parklet examples



BIKE SHARROWS

According to police reports collected between 2003 and 2015, 35% of pedestrian accidents downtown involved individuals on bicycles. With increasing use of the Luther Warren Peace Path and the Urban Trail Connector in close proximity, the volume of bicycle traffic will reasonably grow. An affordable and effective method of protecting cyclists are “sharrows” painted on the pavement of roads. These symbols are widely used in cities worldwide to remind drivers that they must be aware of cyclists and share the road with them.



These sharrows would be painted on the three most-traveled streets: Main, South, and Locust. Bike racks should also be installed along these streets to provide places to lock up bicycles.