Optimizing Downtown Streets

Final Plan

July 2021

SPECK & ASSOCIATES LLC

NELSON NYGAARD

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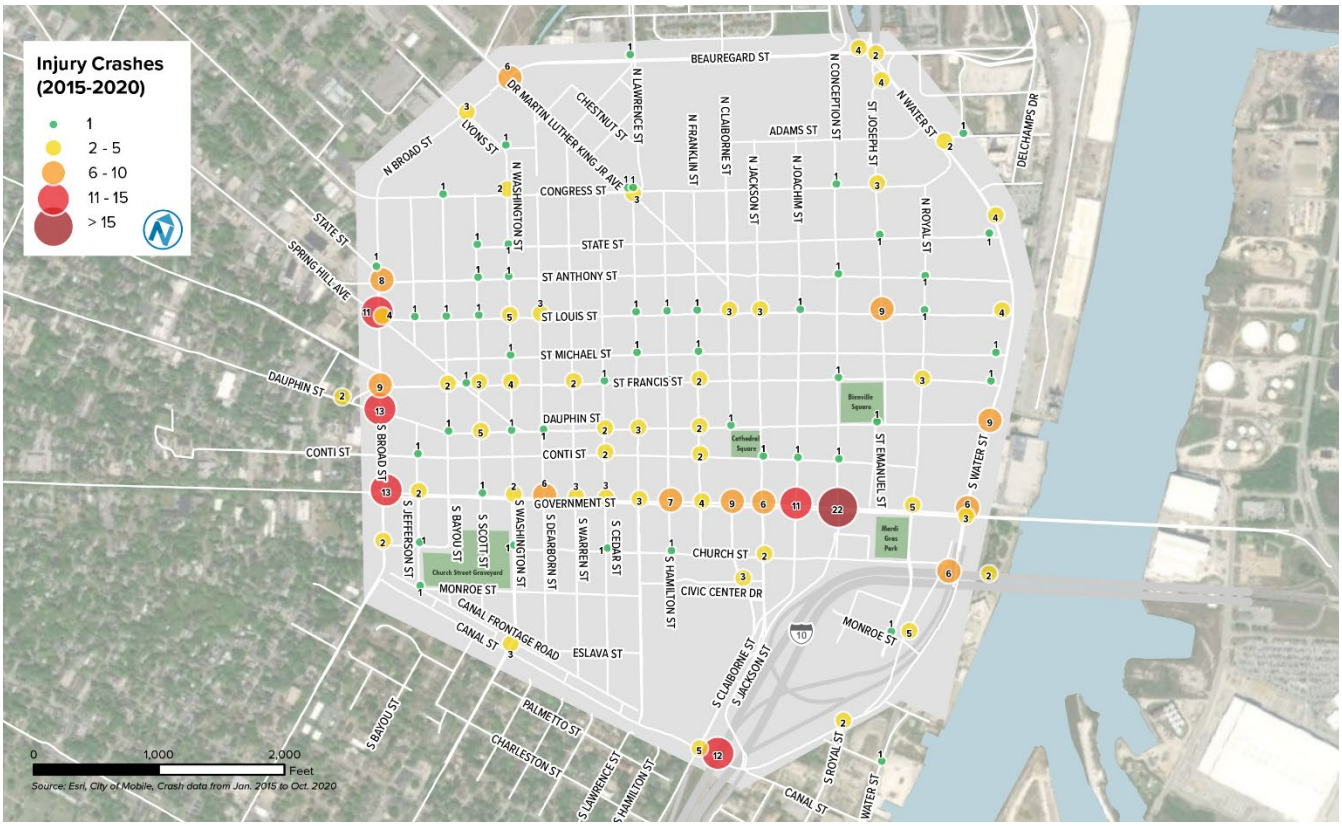
1 Introduction: A Safe Walk

Most people who avoid walking do so because the walk feels dangerous due to the very real threat of vehicles moving at considerable speed near the sidewalk. Statistically, moving automobiles are a much greater threat to people walking than is crime. This is certainly the case in downtown Mobile, where any perceptions of potential crime are largely false while the perception of speeding traffic is accurate.



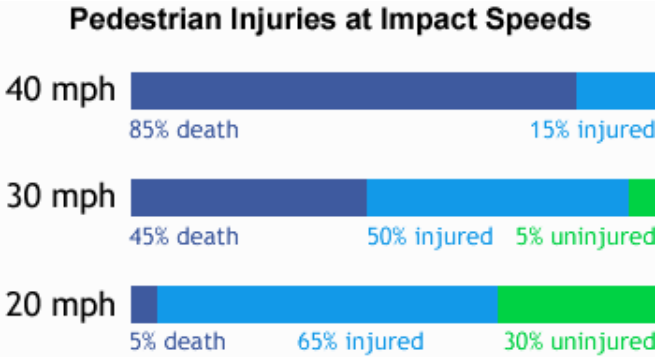
The study area experiences dozens of injurious crashes every year.

As the above map shows, downtown Mobile is no stranger to injurious car crashes. Most of these do not involve pedestrians, but many do, and pedestrian death rates have skyrocketed nationwide even as driver deaths decline. But all injuries matter, and there are more of them downtown than even we anticipated.

While the principal focus of this study is downtown vitality, livability, and business success, these statistics are more than relevant given how life-safety concerns often influence decision-making

on the design of our streets. For example, if a wide roadway improves fire-fighting access while causing drivers to proceed at life-threatening speed, is it safer to maintain that width, or to narrow it? The answer would lie in comparing car-crash injuries to fire injuries, a ratio that nationally surpasses 100 to 1.

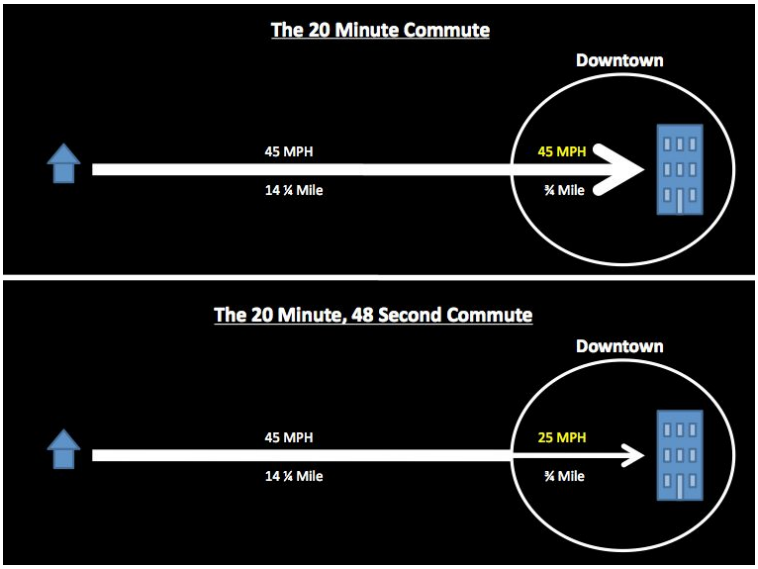
Downtown vitality—street life—is dramatically impacted by the speed of vehicles. Whether they know it or not, most pedestrians understand in their bones that a person hit by a car traveling at 35 mph is roughly eight times as likely to die than if the car is traveling at 25 mph. Any community that is interested in street life—or human lives—must carefully consider the speed at which it allows cars to drive in places where people are walking.



Keeping drivers at or below 25 mph is essential to pedestrian safety in downtown Mobile.

And in most American cities, the place where people are most likely to walk is the downtown. In fact, in Mobile, a pandemic-year walking club even drives downtown to stroll. Acknowledging that downtown is the city's primary walking location opens up real possibilities, as it allows us to have a dramatic impact on walking while impacting driving only minimally. By focusing on vehicle speeds in downtown, we can make walking safer for the most pedestrians with the least amount of driver inconvenience.

The illustration at right tries to make this point clear. It shows how the difference between an attractive and a unwelcoming downtown may be less than a minute of drive time. Would most people be willing to spare 48 seconds each day if it meant that their city was a place worth driving to? Probably.



A significant change in downtown speeds typically results in a minimal change to commute times.

This logic explains why a growing number of cities have instituted "20 is Plenty" ordinances in their downtowns, and a few have even settled on 18 mph as the target speed. But lowering speed limits is only the half of it. The more important step is to engineer the streets for the desired speed, which means eliminating wider lanes and other inducements to speeding.

If the key to making a street safe is to keep automobiles at reasonable speeds—and to protect pedestrians from them—we must address the principal factors that determine driver speed and pedestrian exposure. In Mobile, there are ten:

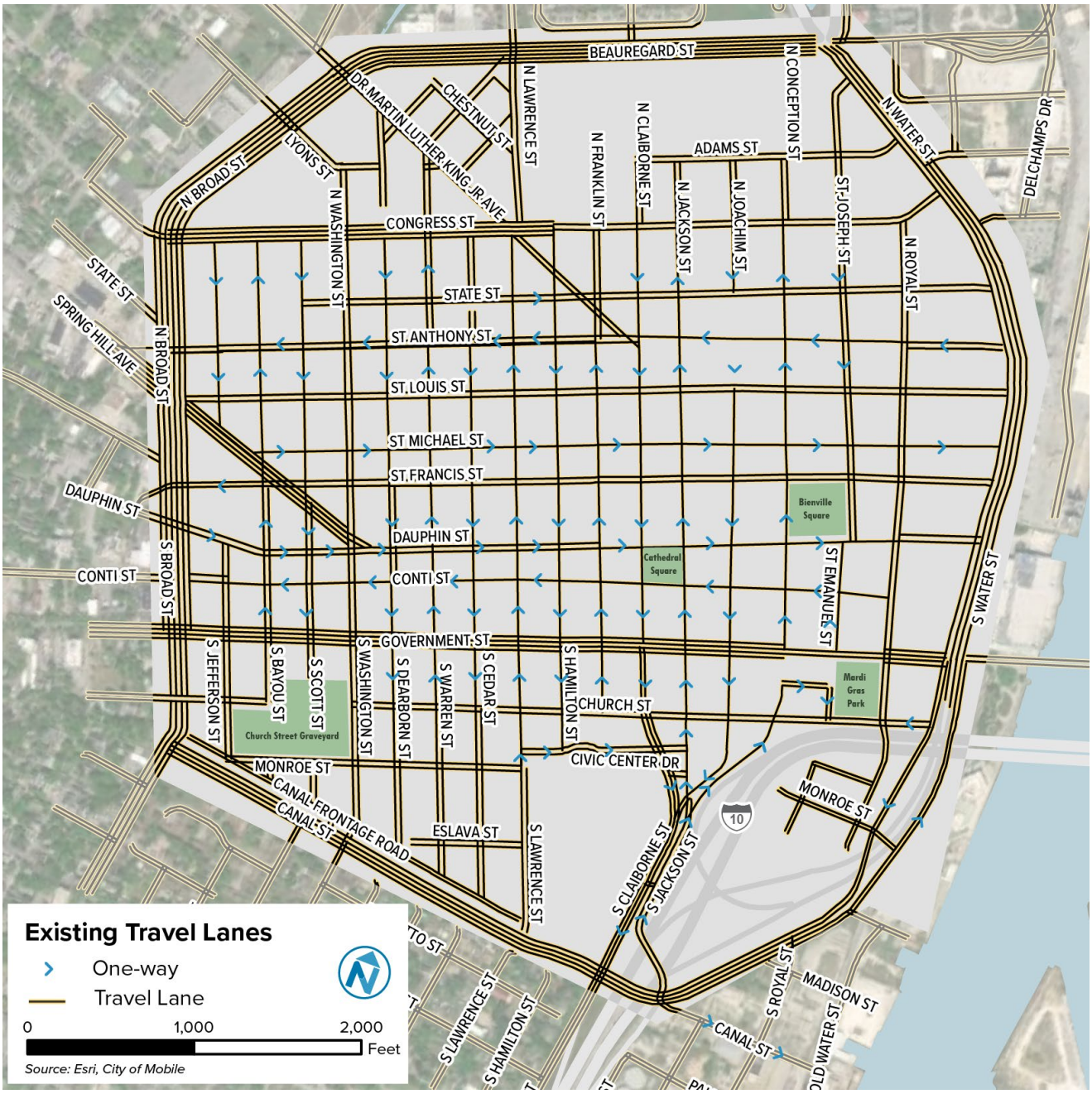
1. The number of driving lanes;
2. Lane width;
3. One-way vs. two-way travel;
4. On-street parking;
5. Cycle facilities;
6. The presence of centerlines and parking stripes;
7. The presence of swooping geometries;
8. The presence of sidewalk curb cuts;
9. The presence of unwarranted signals; and
10. The provision and design of crosswalks and signals.

The understanding of how each of these factors impacts both driver and pedestrian behavior has evolved tremendously over the past few decades. Much of what many traffic engineers were taught in school has been invalidated, and many of the lessons learned are counterintuitive.

In the chapters that follow, each of these ten criteria is discussed at length, in order that current best practices can direct the redesign of downtown Mobile's streets.

2 The Proper Number of Driving Lanes

The more lanes a street has, the faster traffic tends to go, and the further pedestrians have to cross. Many of Mobile's downtown streets clearly have more lanes than they need to satisfy the demand upon them, as will be demonstrated ahead. Removing unnecessary driving lanes frees up valuable pavement for more valuable uses, such as curb parking and bike lanes.



The current supply of driving lanes in downtown Mobile.

The Lane Audit

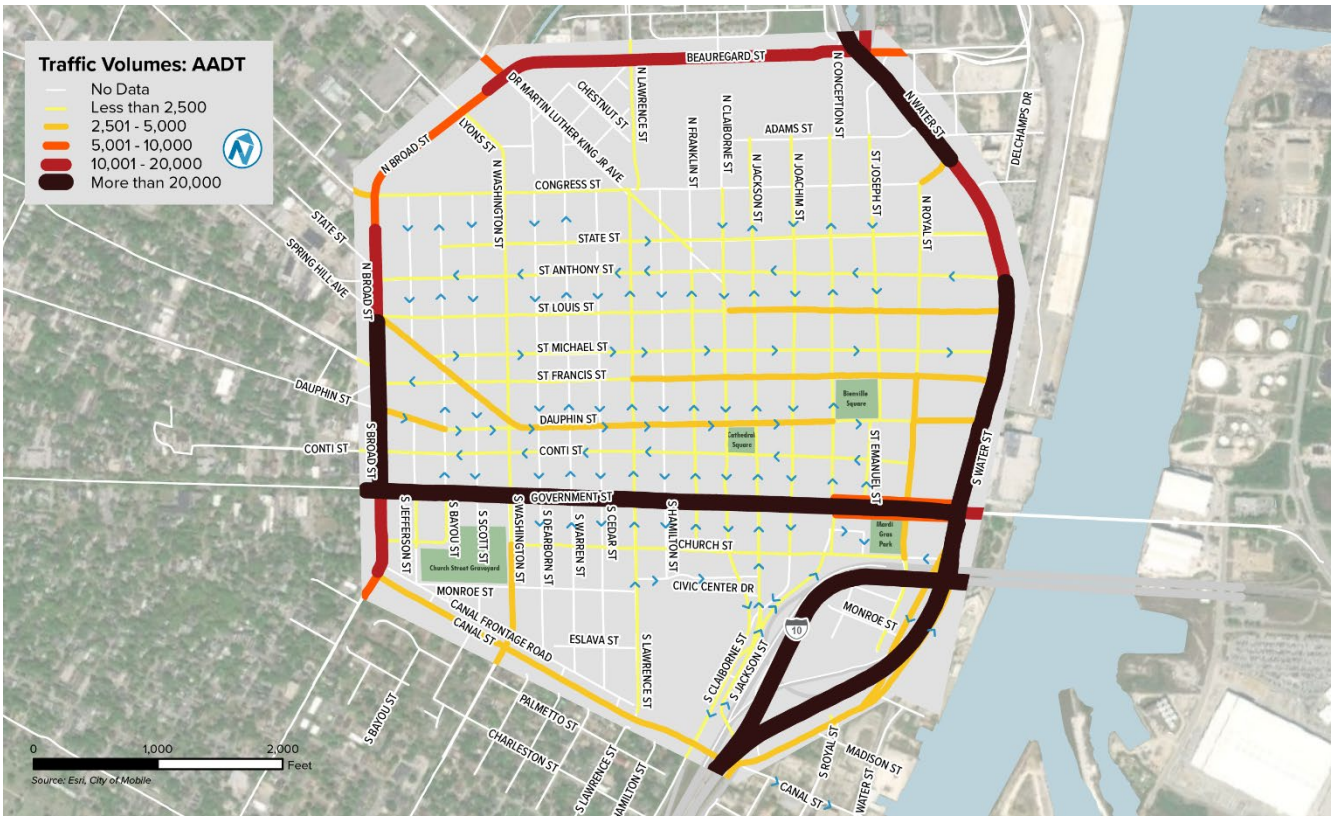
Determining which lanes are unnecessary, now and into the future, is a central challenge of this effort. Its first step is simply to compare the network's current capacity (supply of lanes) to its traffic (demand for lanes). The diagram above shows how many lanes are present on each street in the downtown grid.

While every street and intersection is different, certain conservative rules of thumb can be trusted to determine how much traffic a street can handle. Most traffic engineers concur that a simple two-lane, two-way road can easily handle up to 10,000 car trips per day without congestion. Beyond that amount, adding center (left-hand) turn lanes at intersections increases the carrying capacity above 15,000 cars per day; the typical busy three-lane road handles 18,000 to 20,000 cars per day, which is similar to the capacity of a four-lane road without turn lanes. Beyond 20,000 trips per day, engineers generally recommend 5 lanes.

Relevant to Mobile, a single one-way lane is considered capable of handling well above 5000 vehicles per day. This translates to roughly 500 vehicles at peak hour, or one car every 7 seconds.

Mobile does a good job keeping track of its traffic, and recent traffic counts have been recorded on every downtown street that handles more than a light trickle of vehicles. The latest pre-COVID counts are shown in the diagram below.

This diagram is quite revealing. It shows how, aside from Government Street and the Henry Aaron Loop, which are adequately sized for heavy volumes, not a single street in the study area receives more than 5000 car trips per day. In other words, every one-lane street is amply sized, and, even if traffic on each two-lane street were to double, it would not become congested.

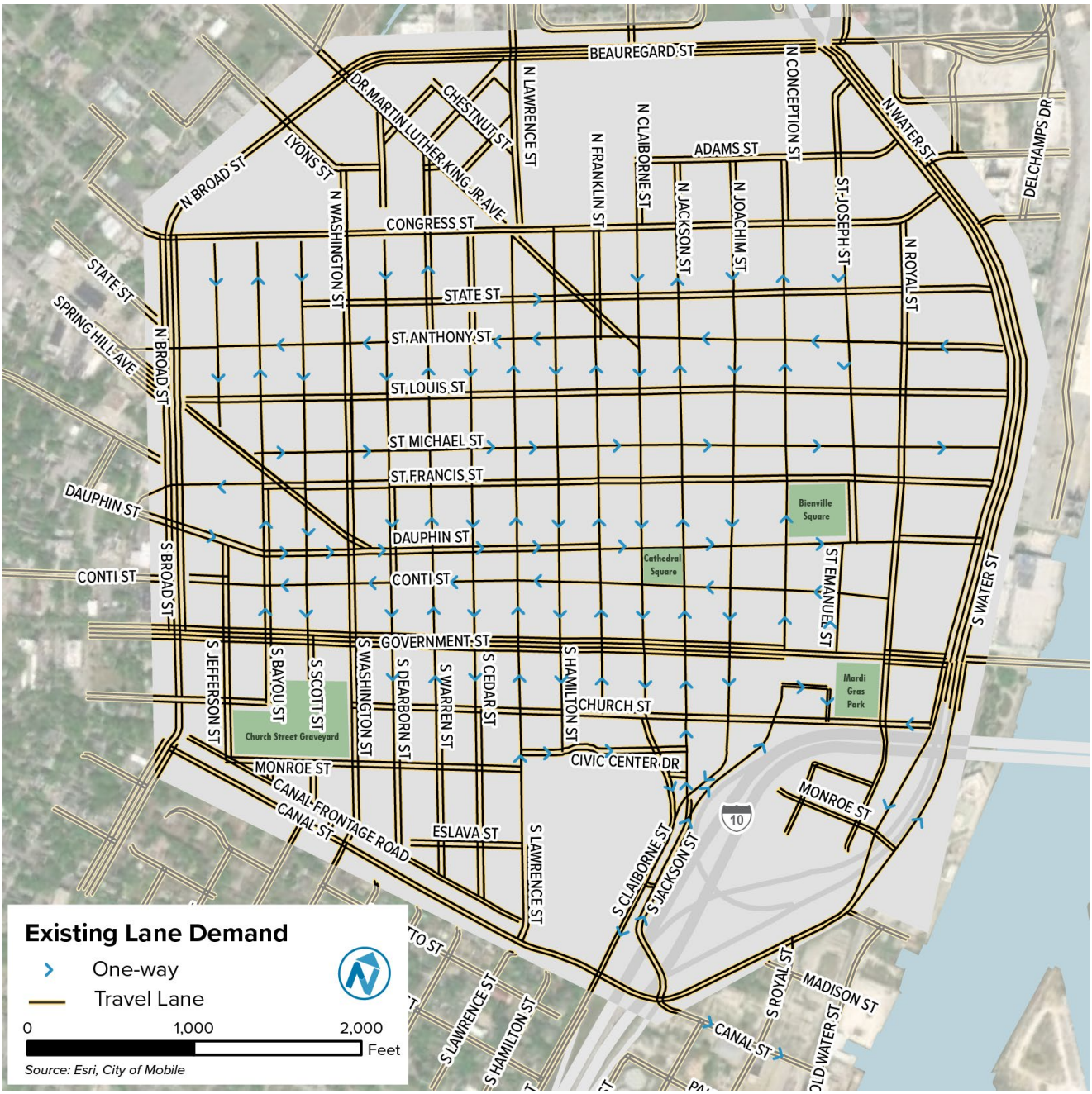


Traffic volumes in downtown Mobile.

This outcome is not surprising when one considers the tremendously porous nature of the city's colonial-era small-block grid. Downtown Mobile has an intersection density of close to 300

crossings per square mile, which places it firmly among the most dense street networks in the US. This network effectively disperses traffic onto many streets, so that very few need to be large.

While Government Street and the Henry Aaron Loop pose their own challenges—to be discussed ahead—the remaining thirty-odd streets downtown require only one driving lane for each direction of traffic. That circumstance is communicated in the diagram below, Lane Demand.



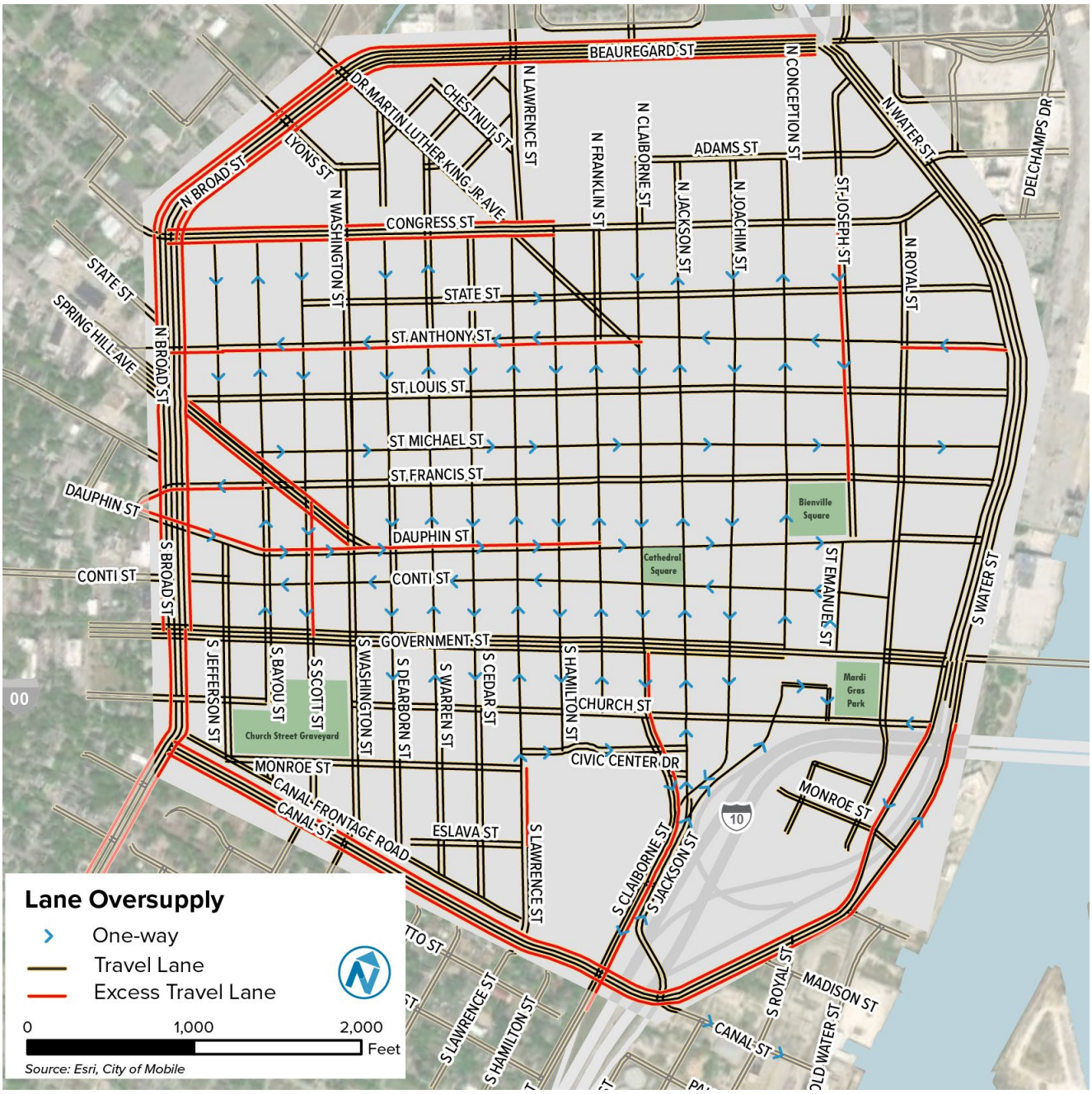
The current demand for driving lanes in downtown Mobile.

The concept of a Lane Audit is quite simple: comparing the supply of lanes to the demand for lanes, we discover where unnecessary additional pavement exists that can be put to alternative use. That use could be parking lanes, bike lanes, or, on one-way streets, the reintroduction of two-way travel.

The same strategy is applied to turn lanes. Again, when a street carries fewer than 10,000 cars per day, additional turn lanes at intersections are not needed, as they only serve to speed traffic to the detriment of safety. This technique was one of many that contributed to the success of the reconstruction of all streets in Oklahoma City's downtown core. While controversial at first, the elimination of all unnecessary turn lanes did not lead to any significant congestion. For streets carrying fewer than 5,000 trips per day as in Mobile, the presence of turn lanes adds slight convenience at considerable risk.

As the above diagrams show, there is a noticeable difference between the demand for lanes and the supply of lanes in downtown Mobile. How this came to be is always an interesting discussion, but it is less useful than recognizing the inducement to speeding that these lanes represent, as well as the resource they can provide for other uses.

The full extent of that resource can be seen in the diagram on the next page, Lane Oversupply. Some of this oversupply is easily corrected, while some is not. Specifically, Broad and Beauregard are currently being rebuilt by the Alabama DOT with considerable excess capacity on most segments. This is fairly standard State DOT procedure. Most are reluctant to make any changes that reduce a road's capacity. We can at least take comfort that, should downtown ever become congested, these streets are amply capable of rerouting traffic around it.



The current oversupply of driving lanes in downtown Mobile.

The remaining oversized streets do not fall under ALDOT's purview, and are as follows:

- Canal Street, which (with the recent conversion of two driving lanes into bike lanes) has five lanes where only two are needed;
- The northern segment of Lawrence Street, the western half of Congress Street, MLK Avenue, and Spring Hill Avenue, all of which have four lanes where only two are needed;

- Royal Street and the segment of Church Street from Franklin to Claiborne, which lose parallel parking in key locations due to unnecessary left-turn lanes;
- The one-ways of St. Joseph Street, St. Anthony Street, and the southern segment of Claiborne Street, all of which have two lanes where only one is needed;
- Washington Avenue south of Government, where three lanes handle less than two lanes worth of traffic.
- The two one-way feeders to Water Street alongside Fort Condé, which also have two lanes where only one is needed; and
- Most importantly, the western half of Dauphin Street, where many complaints are heard about speeding, and where collisions far outpace its slower, eastern half. Parking is allowed on both flanks of this one-way street overnight, which calms traffic. But during the day, the availability of an extra lane encourages unsafe driving.

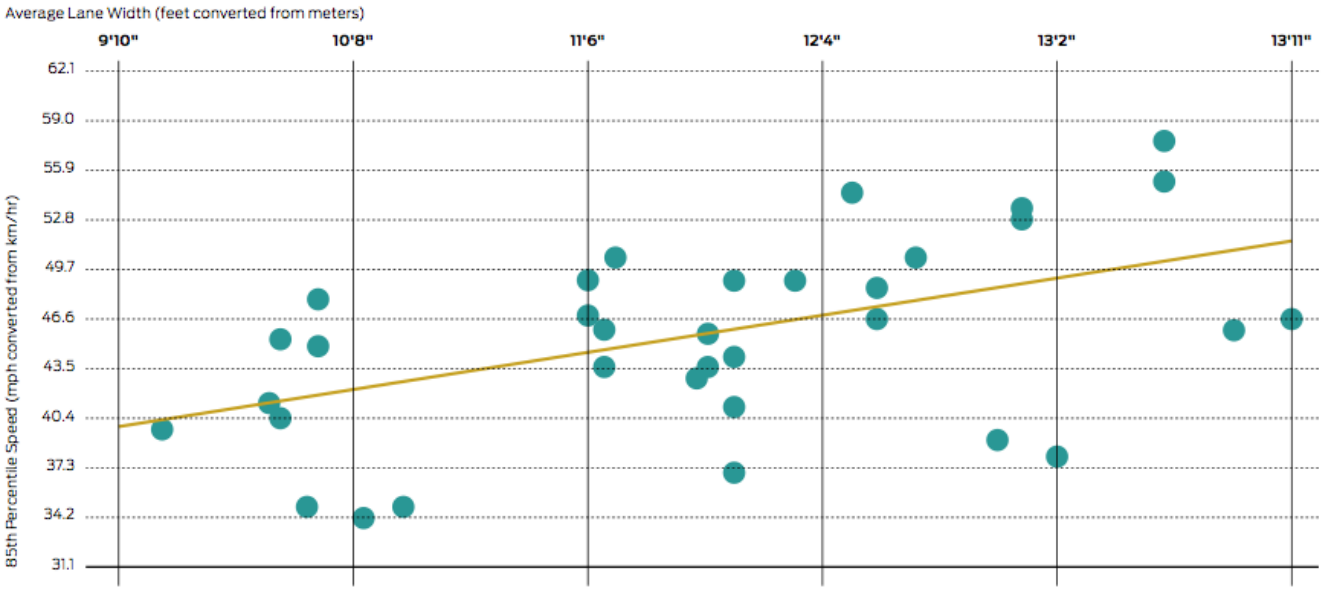
This Plan recommends removal of most the extra lanes above, and their replacement with either parallel parking, cycle facilities, or—in the case of some one-ways—the introduction of two-way traffic. Proposed changes to each thoroughfare are enumerated in the street-by-street discussion ahead.

Several other streets in the downtown have excess capacity in theory, but mitigating circumstances suggest that lane reduction may not be appropriate. Specifically, the southern segment of Jackson Street and the adjoining segment of Church Street (east of Claiborne) all experience pulses in congestion due to summer peak travel as well as queues for the Mobile County parking garage. For these, we recommend consideration of wayfinding to alternate summer routes, and potentially more efficient garage egress technology.

An extra lane on Dauphin Street invites speeding.

3 Lanes of Proper Width

Different-width traffic lanes correspond to different travel speeds. A typical American urban lane is 10 feet wide, which comfortably supports speeds of 35 mph. A typical American highway lane is 12 feet wide, which comfortably supports speeds of 70 mph. Drivers instinctively understand the connection between lane width and driving speed, and speed up when presented with wider lanes, even in urban locations. For this reason, any urban lane width in excess of 10 feet encourages speeds that can increase risk to people walking.



Study shows that wider travel lanes correlate with higher vehicle speeds.

Many streets in downtown Mobile contain lanes that are 12 feet wide or more, and drivers can be observed approaching highway speeds when using them. It is surprising to learn, then, that the correlation between lane width and driving speed, crash frequency, and crash severity is a very recent discovery of the traffic engineering profession, and contradicts decades of conventional

wisdom within that profession. Even today, many traffic engineers will still claim that wider lanes are safer. This understanding is accurate when applied to highways, where most people set their speeds in relation to posted speed limits. But on city streets, most people drive not the posted speed, but the speed which feels comfortable, which is faster when the lanes are wider. Fortunately, a number of recent studies provide ample evidence of the dangers posed by lanes 12 feet wide and wider.

In acknowledgement of this body of research, numerous organizations and agencies, like NACTO (The National Association of City Transportation Officials), have endorsed 10-foot lanes for use in urban contexts. NACTO's *Urban Street Design Guide* lists 10 feet as the standard, saying, "Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations." They add: "Narrower streets help promote slower driving speeds which, in turn reduce the severity of crashes."

Lanes on St. Joseph Street are 5 feet wider than the 10-foot NACTO standard.

Most streets in downtown Mobile exceed the 10-foot standard, and this Plan attempts to remedy all of them. They can be sorted into four main groups:

- St. Joseph, Washington, and S. Claiborne: considerably oversized two-lane streets where there is enough excess width to introduce a new parking or bike lane;
- Royal and St. Louis: slightly oversized two-way streets where parking lanes can be widened to bring the driving lanes closer to 10 feet;
- St. Michael, Conti, Conception, Joachim, Claiborne, Franklin, and Warren south of Government: one-lane, one-way streets that all have about six feet more pavement than they need, which can most easily be absorbed by the insertion of a single bike lane;
- Hamilton, Lawrence, Cedar, Warren (north of Government), Dearborn, Scott, Bayou, and Jefferson: Neighborhood one-way streets that have a single wide driving lane as a result of having lost two-way traffic, and which would benefit from reversion back to two-way. These will be discussed ahead under Yield Flow.

Slow Flow and Yield Flow

If narrower lanes are safer, why stop at 10 feet? Indeed, many cities have downtown streets with lanes that are 9 feet wide, 8 feet wide, or even narrower. These lanes are not advisable on streets experiencing high traffic volumes, where the excess friction can cause congestion. But for streets with fewer than 5000 trips per day—like most of downtown Mobile—they present a great choice.

Such streets fall into two categories: Slow Streets and Yield Streets.

Slow Streets have lanes that are typically 8 feet wide. At this width, two vehicles can pass comfortably in opposite directions, but only at low speed. They typically do not have centerlines, which further calms traffic as discussed ahead.

Buses and trucks are generally about 8½ feet wide. They can pass cars comfortably on slow flow streets, but not each other, so slow flow is not recommended for significant bus or truck routes if the lanes are bound by curbs or parallel parking. If excess elbow room exists, however, such as in an adjacent bike lane, large-vehicle drivers can be expected to carefully negotiate the occasional tight squeeze by leaving their lanes slightly. We must remember that lane lines are only paint, and do not constitute a physical barrier to slow-speed passing.

California Street in Washington DC is a heavily-travelled slow-flow street.

Several streets in downtown Mobile present an opportunity for introducing Slow Flow. Specifically, neighbors in the De Tonti Square and Church Street East neighborhoods express concern about speeding on Congress Street, State Street, and Church Street, all of which would be made safer by narrower lanes. Additionally, as will be discussed ahead, creating a proper bike network in the heart of downtown would likely rely on inserting a bike lane in St. Francis Street, resulting in Slow Flow geometry.

WHAT ARE SKINNY STREETS?

The City of Portland requires most newly constructed residential streets to be 20 or 26 feet wide, depending on neighborhood on-street parking needs. In the past, residential streets were required to be as wide as 32 feet. To achieve the benefits described below, the City reduced residential street widths.

Why create skinny streets in neighborhoods?

Allowing newly-paved residential streets to be narrower provides many benefits to area residents. Skinny streets help preserve neighborhood livability, while improving access to homes. Some benefits are:

Maintain neighborhood character.
Construction of a wide paved street to replace a narrow unimproved road can change a neighborhood's atmosphere. Skinny streets reduce the impact on slopes and contours, on yards and on neighborhood self-image.

Lower construction costs.
Construction of narrower streets costs less. This means that residents who want to improve existing streets are able to do so for less money and developers can create new neighborhood streets less expensively.

Save vegetation & trees.
In existing neighborhoods, narrower paving widths reduce the need to cut trees and shrubs along the street.

20 feet — 26 feet

Reduce stormwater runoff.
Paved streets are a major source of stormwater runoff. Pollutants from autos, as well as fertilizer, pesticides and other contaminants, are collected in stormwater, which flows into storm sewers. Eventually, this dirty water reaches area streams and rivers. Reducing pavement reduces stormwater runoff and allows more water to soak directly into the ground.

Encourage traffic safety.
Narrower streets discourages non-neighborhood traffic and force drivers to slow down.

Encourage better land-use.
As stewards of our natural resources, we know that streets aren't the best use of existing undeveloped land. With skinny streets, in new developments we have more room to house our growing population while reducing the amount of land reserved for traffic use.

Who decides on a street's width?
If you live on an unimproved street, you may be considering forming a Local Improvement District (LID) to complete your street. With an LID, you and the other property owners on your street would pay for improvements, and the City would be responsible for future maintenance.
In that case, you and other participating property owners can help design what your street will look like. Collectively, you can decide if you want parking on one or both sides of the street. This will determine how wide the street will be.
In new neighborhoods, developers will select the street width they believe to be most appropriate within the city guidelines.

Can emergency vehicles reach my home?
The Fire Bureau participated in exercises in older neighborhoods with narrow streets. The Bureau found that street widths based on skinny street guidelines will provide adequate access for emergency vehicles.

How Can I Learn More About SKINNY STREETS?
The City of Portland's Office of Transportation has set up the Local Streets Outreach Program. If you would like more information, or if you're interested in a presentation about skinny streets, please contact
(503) 823-7046

This municipal brochure was created to encourage the construction of new Yield Streets in the 1990s.

Even safer than Slow Streets are Yield Streets. Common in historic neighborhoods throughout the US, these streets typically contain a single driving lane between 12 and 14 feet wide that handles low-volume driving in both directions. They are appropriate for single-family residential and quiet light-industrial neighborhoods, where traffic is light. When two vehicles approach each other, one of them simply pulls into the parking lane slightly to allow

others to pass. Only when parking is too heavy too allow for such passing gaps does it make sense to either limit flow to one direction, or to disallow parking on one side.

Downtown Mobile already has many of these streets, such as Monroe and Dearborn in the Church Street East neighborhood, but many of these have been unwisely converted to handle one-way traffic only, resulting in a single, higher-speed driving lane, as already mentioned. To be discussed ahead, all of the one-way north-south streets in the western half of downtown, from Hamilton to Jefferson, should be reverted back to two-way Yield-Street geometry.

At 26 feet with parking on both sides, South Dearborn Street corresponds to the Portland Skinny Streets standard.

4 Avoiding One-Ways

Like many American cities, Mobile converted almost all of its downtown streets to one-way traffic in the mid-20th century. This transformation, by eliminating the delay inherent in left turns across traffic, helped to speed the motion of cars through downtown. Unfortunately, it did so at the expense of pedestrian comfort and business vitality.

For some time now, the City has been considering reverting some or many of these streets back to two-way traffic. A study is currently underway for St. Joseph Street, and previous studies over the years have suggested reversion for the majority of the north-south streets downtown. This recent history begs two questions: which downtown streets would benefit from reversion, and how can we overcome impediments to completing a comprehensive reversion immediately.

How One-Ways Work

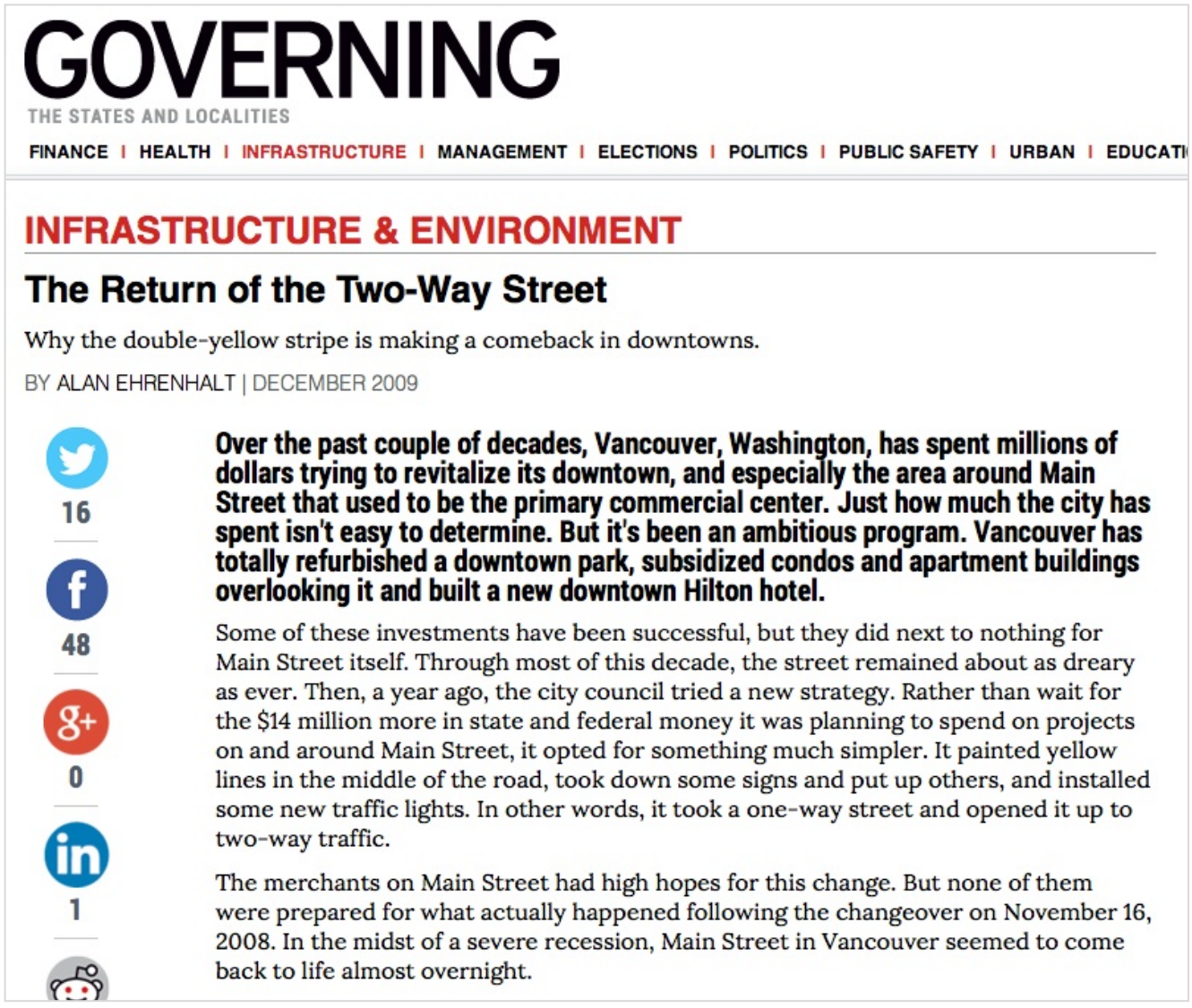
People driving tend to speed on multiple-lane one-way streets, because there is less friction from opposing traffic, and due to the temptation to jockey from lane to lane. In contrast, when two-way traffic makes passing impossible, the driver is less likely to slip into the "road racer" frame of mind. Additionally, people often don't look both ways before turning onto the one-way street, since all traffic is coming from over only one shoulder. This means that people entering the crosswalk from the opposite direction are not seen until a conflict is imminent.

The absence of opposing traffic on St. Anthony Street contributes to driver's propensity for speeding.

And then, of course, there is the danger of the "salmon swimming upstream." Almost everyone has a story about having seen someone drive the wrong way on a one-way street, evidence that the system is not intuitive for all users.

One-ways also have a history of damaging downtown retail districts, principally because they distribute vitality unevenly, and often in unexpected ways. They have been known to harm stores consigned to the morning path to work, since people do most of their shopping on the evening path home. They can also intimidate out-of-towners, who are afraid of becoming lost, and they frustrate locals, who are annoyed by all the circular motions and additional traffic lights they must pass through to reach their destinations.

Learning from the damage wrought by the one-way conversion, dozens of American cities have reverted these streets back to two-way. One such success story, Vancouver, Washington, was famously covered in *Governing* magazine in 2009. Merchants credit a two-way reversion of their one-way main street with the revitalization of a struggling downtown. A similar experience was documented in Savannah, Georgia, where a conversion to one-way traffic on East Broad Street in 1968 resulted in a loss of almost two-thirds of all businesses. When the street was reverted to two-way in 1990, the number of businesses quickly rose by 50 percent.



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INFRASTRUCTURE & ENVIRONMENT

The Return of the Two-Way Street

Why the double-yellow stripe is making a comeback in downtowns.

BY ALAN EHRENHALT | DECEMBER 2009

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Over the past couple of decades, Vancouver, Washington, has spent millions of dollars trying to revitalize its downtown, and especially the area around Main Street that used to be the primary commercial center. Just how much the city has spent isn't easy to determine. But it's been an ambitious program. Vancouver has totally refurbished a downtown park, subsidized condos and apartment buildings overlooking it and built a new downtown Hilton hotel.

Some of these investments have been successful, but they did next to nothing for Main Street itself. Through most of this decade, the street remained about as dreary as ever. Then, a year ago, the city council tried a new strategy. Rather than wait for the $14 million more in state and federal money it was planning to spend on projects on and around Main Street, it opted for something much simpler. It painted yellow lines in the middle of the road, took down some signs and put up others, and installed some new traffic lights. In other words, it took a one-way street and opened it up to two-way traffic.

The merchants on Main Street had high hopes for this change. But none of them were prepared for what actually happened following the changeover on November 16, 2008. In the midst of a severe recession, Main Street in Vancouver seemed to come back to life almost overnight.

In 2009, Governing Magazine documented some of the benefits of two-way reversion.

Recent Experience

A more recently published report on this topic comes from Louisville, Kentucky, and is outlined in a report titled "One Way to Fix Louisville's Declining Neighborhoods," by Professor John Gilderbloom. This paper covers the experience of two Louisville streets, Brook and First, that were reverted to two-way traffic a few years ago, and compares them to nearby streets (Second and Third) that remain one-way.

Here are some of the findings: along the reverted streets, a "significant reduction in crime, accidents, and an increase in property values, business profits, and bike and pedestrian traffic." Specifically, Brook Street saw a 36 percent reduction in car crashes and a 39 percent increase in property value. Car crashes on First Street dropped 60 percent. Meanwhile, on one-way Second and Third Streets, car crashes increased an average of 15 percent. And while crime increased 36 percent on Second and Third Streets, it dropped 23 percent on Brook and First. Revenues to businesses on the converted streets have also risen significantly, with one restaurant doubling its table space.

Why Not to Revert

Unlike many cities that have reverted their one-way systems back to two way, Mobile's colonial-era streets are mostly narrow. Many of these streets, like Jackson and the eastern half of Dauphin, now hold parallel parking on both sides, something that is vital to adjacent businesses, as will be discussed ahead. While one can expect that two-way travel would also improve business activity on these streets, the loss of half of their parking—and the sidewalk protection that such parking provides—would likely have an even greater negative impact. For this reason, Dauphin Street and the narrower north-south streets in the eastern half of downtown are not recommended for two-way reversion.

One interesting example is the northernmost block of Conception Street. Due to all the business parking in the DeTonti Square neighborhood, residents complain that this two-way segment of an otherwise one-way street is frequently backed up by cars unable to pass each other in opposite directions. Since limiting parking to one side would create a shortage, their request for a conversion to one-way travel on this northernmost block seems prudent.

A More Rational and Legible Network

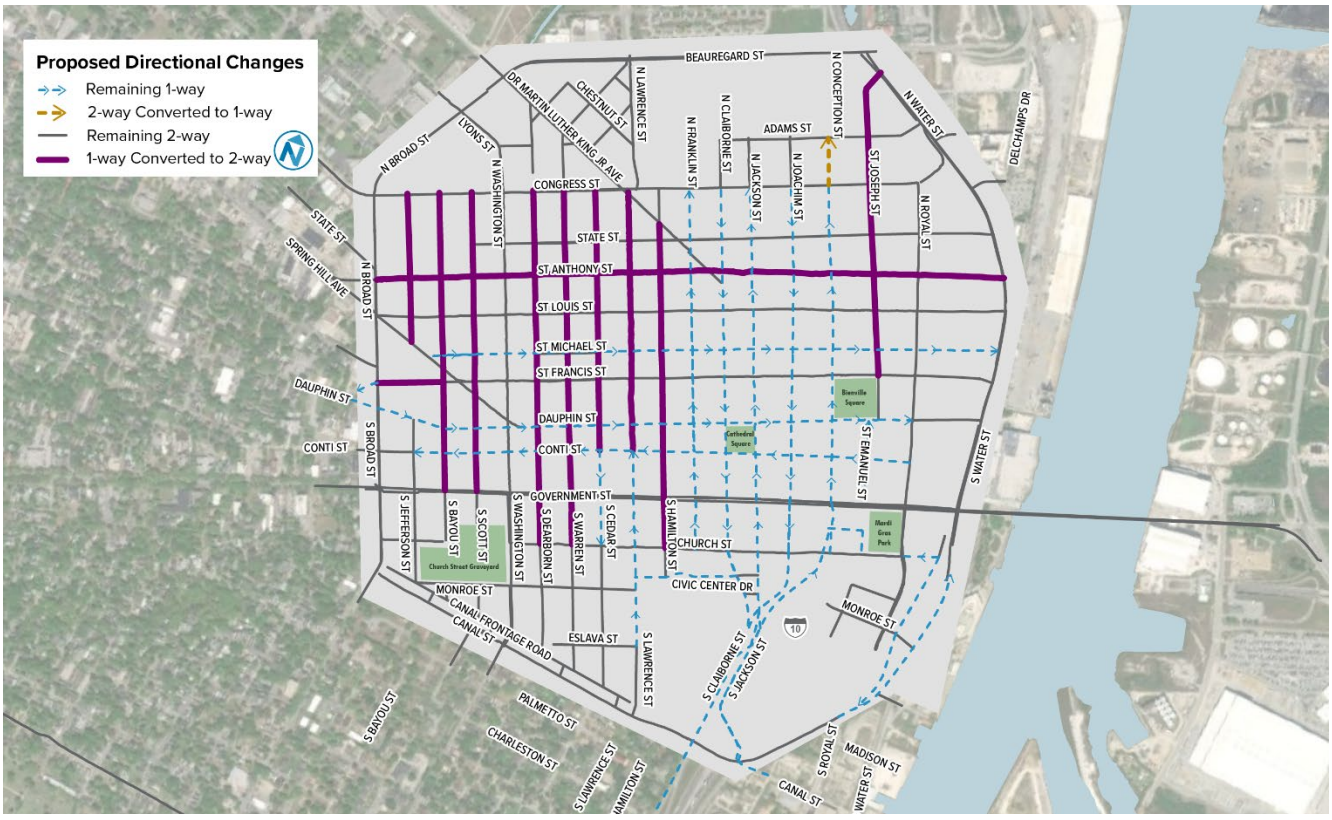
With that exception as an example, the strategy of this plan is to revert to two-way travel all those one-way streets where doing so will not have a significant impact on either parking provision or traffic flow. Within this framework, the wider multilane streets of St. Joseph and St. Anthony are clear choices. For the narrower streets, it is the less busy north-south streets in the western half of downtown—from Hamilton to Jefferson—where the safety benefits of yield flow and the improved wayfinding characteristics of a two-way grid can be expected to produce an extremely positive overall outcome.

The recommendation for such a vast reversion is not taken lightly, and is made with a hard-won understanding that, across the US, it is the narrowest two-way residential streets that seem most

successful at delivering the highest real-estate value, the best measure that we have of neighborhood livability.

A few small sacrifices must be noted. For half a block north and south of Dauphin Street, Hamilton Street is wide enough to maintain two-sided parking as a slow-flow two-way street, but for the subsequent half blocks it narrows, and parking would have to be limited to one side. There will likely be a few other locations where, once two-way travel is introduced, parking may need to be restricted to one side only to avoid congestion. This will only occur in places where parking demand is so high that gaps are not available between parked cars to facilitate vehicles passing each other.

This parking situation must be monitored and adjusted by City staff as it takes shape. Thanks to the limited overall parking demand on these streets, the ultimate outcome will not be an undersupply of parking, but rather a few locations where side-street parking serving businesses on Dauphin and St. Louis Streets is attenuated slightly to the north and south as a result of being limited to just one flank. The alternative to this solution—a rational two-way street grid that is interrupted by a few confusing one-way segments near its center—would be an inferior outcome.



Proposed changes to street direction downtown.

Unfortunately, three anomalous locations must remain in this one-way north-south network in the short term: the one block of Scott Street north of Government Street and the two blocks of Cedar Street and Lawrence Street on either side of Government Street, where ALDOT-controlled traffic

signals must be modified to allow for two-way flow. The process of changing these signals takes time and should be started immediately to avoid undue delay.

With one exception: Residents of Lawrence Street in the Church Street East neighborhood have requested that, rather than two-way travel, that street receive a northbound bike lane. Such a lane would make a convenient partner to a southbound lane that is planned for Claiborne Street. North of Government Street, however, a full two-way reversion of Lawrence Street is recommended.

Pulling Off the Band-Aid

Now to address the second question: how can we motivate the City and its residents to embrace the entirety of this proposal, and pursue it in short order?

The evidence, already presented, is clear: Two way streets are safer, better for business, and a hallmark of America's best neighborhoods. But reverting the direction of streets can be confusing and costly. Consideration of these two concerns provides the clear direction to make these changes comprehensively, in one fell swoop, rather than piecemeal over time.

The way to maximize confusion would be to have the changes occur street-by-street over time, providing months of small surprises, none of them newsworthy enough to garner public attention. Creating a single, well-publicized campaign that occurs as quickly as possible is the best way to engender more cautious driving and fewer baffled drivers.

In terms of cost, it must be stressed that the greatest outlay surrounding two-way reversion is the modification of traffic signals. When two intersecting streets change their direction of flow, the signals at their intersection must be modified each time a street is changed, so it is much cheaper to do both streets at once. However, that point will hopefully become moot, as this Plan also recommends (ahead) the removal of all traffic signals not on Government Street or the Henry Aaron Loop, to be replaced by all-way stop signs. This change will be made possible in part by the two-way reversion; while two-lane one-ways generally require signals at major intersections, two-lane two-ways do not.

A yard sign in New Albany, Indiana.

A final motivation to make these changes comprehensively and quickly can perhaps be found in New Albany, Indiana. This plan for downtown Mobile is not the first of its type; in 2014, New Albany commissioned a similar effort that ultimately recommended reverting its entire downtown grid from one-way to two-way traffic. The City studied and debated these recommendations for several years, but finally completed them all in the summer of 2017.

Skeptics, including a local trucking company, were quickly silenced as a struggling downtown came back to life. Hundreds of new apartments have been built and, at least until COVID, new businesses were opening. One citizen, Kate Rosenbarger, described it this way: "What is happening now feels like a fairytale land. It feels vibrant, hip, bustling, and safe. There are so many great shops and restaurants. People go out to dinner and then stroll around looking in windows."

In a recent interview, New Albany Police Chief Todd Bailey told reporters that he has "never seen a better scenario for public safety. Speeds have been reduced, crashes are down, and response time to calls for service is far better than it has ever been."

Similar experiences have occurred in Oklahoma City, Cedar Rapids, and wherever else these reversions have been completed, a list that now includes more than 75 American cities. With its study of St. Joseph Street, the City has embarked on an effort that will make its downtown healthier, but only at the pace at which it is executed.

5 Continuous On-Street Parking

Curb parking provides an essential barrier of steel between the roadway and the sidewalk that is necessary if people walking are to feel fully at ease. It also causes people driving to slow down out of concern for possible conflicts with cars parking or pulling out. On-street parking also provides much-needed life to city sidewalks, which are occupied in large part by people walking to and from cars that have been parked a short distance from their destinations.

On-street parking is also essential to successful shopping districts. According to the consultant Robert Gibbs, author of *Urban Retail,* each on-street parking space in a vital shopping area produces between $150,000 and $200,000 in sales.

Fort Lauderdale: Parking was only allowed on one side of Himmarshee Boulevard until corrected by a study like this one. Sidewalk dining was only successful on the parked side of the street.

Several streets in downtown Mobile lack a significant amount of their potential on-street parking due to driving lanes that are either too wide or too many in number. Bringing missing parking back will contribute markedly to the safety and success of downtown.

The strategy of this plan is to minimize to a handful the number of on-street parking spaces lost to two-way reversion, and then to add more curb parking wherever it fits, resulting in a considerable net increase in parking. The most meaningful opportunities are four:

- Royal Street, north of St. Francis Street, where an unnecessary turn lane can be eliminated to create space for a parking lane;
- St. Joseph Street, which, as it is reverted to two-way travel, still has an additional ten feet of width that can be used to turn one flank of parallel parking into angle parking, significantly increasing supply;
- The two one-way feeders to Water Street alongside Fort Condé Village, where an extra driving lane in each direction provides the space for new parking lanes that can potentially serve cruise line passengers; and
- Most importantly, the extra driving lane in the western half of Dauphin Street, which is currently used for parking overnight, but where parking is not allowed during the day.

Dauphin Street deserves a longer discussion. It is the very heart of Mobile, and its principal walkable corridor. It holds attractive businesses along most of its entire length through downtown, from Bayou to Water Street, a stretch of almost a full mile. There are great restaurants on just about every block. Yet it also contains a fair number of empty lots and underutilized properties, particularly on its western half. One can imagine what a regional or even national tourism destination it could become with only a little more energy and development. And today, as businesses reel from the impacts of the COVID pandemic, we have all the more reason to take pains to optimize the physical conditions that support the street's success.

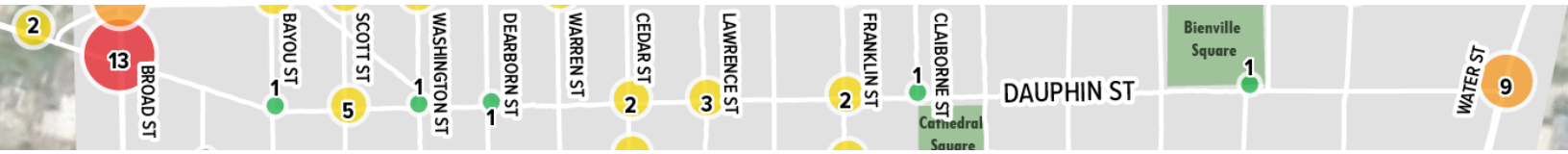
Very few people feel comfortable sitting with their backs to cars moving 30 mph only six feet away.

The principal physical condition that is impeding the greater success of the heart of Mobile is the absence of daytime parallel parking on the north side of Dauphin Street. Almost every single successful main street in the United States has parking on both flanks, not just one. On its eastern half, the impact of missing north-curb parking is minimized by the fact that there is only one driving lane in that location, which calms traffic. West of Claiborne, however, no impediment to speeding exists.

In this light, it is remarkable that the western half of Dauphin has come as far as it has. It is truly an outlier. This condition is best explained by the fact that two-sided parking is allowed overnight, from 6 PM to 7AM, creating a more ideal condition during those hours.

But during the daytime, two lanes of eastbound traffic encourage dangerous speeding. Moreover, pedestrians on the narrow northern sidewalk are unprotected from these vehicles. Comfortable sidewalk dining is out of the question. And there is no possibility of expanding tables and chairs into a "parklet" in the parking lane—the way that many restaurants have survived COVID—since that lane must be vacated every morning.

The safety impacts of two-lane one-way travel on Dauphin Street are also clear. The map of crashes indicates how, west of Claiborne, injurious crashes are greater. If business success were irrelevant, a single-minded focus on life safety would demand that Dauphin be reduced to one lane of traffic on its western half.



Green circles indicate 1 injury crash over 6 years; yellow circles indicate 2 to 5.

It is surprising, then, to learn that it is actually a life-safety concern that is eliminating daytime parking from the north side of Dauphin Street. The Fire Department's ladder truck, to deploy its outriggers, requires an 18-foot-wide clear zone. With parking on both sides, Dauphin Street provides a clear zone only about 14 feet across. This means that, to stabilize the truck, firefighters must locate a gap between parked vehicles on one side of the street that is a couple of feet wide—the outrigger is 14-inches thick—and carefully park the truck to align with this gap. Such a gap may not always be available and, in the rush of fighting a fire, every second counts.

This presents a clear conundrum: life safety vs. life safety. As will be discussed ahead, it is hoped that a solution exists that can provide both adequate fire response and two-sided parking around the clock. If no such solution meets with Fire Department approval, it would be useful to compare Dauphin Street's injurious car crashes—about 6 on average each year—to injurious building fires, to determine which factor presents a greater threat.

Experience from other cities suggests that, compared to car crashes, building fires present a statistically insignificant danger. Nationally, car crash injuries outnumber fire injuries by a ratio of 180 to 1. If that is also the case on Dauphin Street, then it would appear that the two goals of business success and public safety, far from being in conflict, are aligned in support of bringing back around-the-clock two-sided parking to the street's western half.

6 Including Bike Lanes

Cycling is the largest planning revolution currently underway. . . in only some American cities. The news is full of American cities that have created significant cycling populations by investing in downtown bike networks. Another good reason to institute such a network is pedestrian safety: bikes help to slow cars down, and new bike lanes are a great way to use up excess road width currently dedicated to oversized driving lanes. When properly designed, bike lanes make streets safer for people who are biking, walking—*and driving*.

This was the experience when a cycle track (protected two-way bike lane) was introduced on Prospect Park West in Brooklyn, NY. A 3-lane one-way street was converted to 2 lanes, parked cars were pulled 12 feet off the curb, and a cycle track was inserted in the space created. As a result, the number of weekday cyclists tripled, and the percentage of speeders dropped from about 75 percent of all cars to less than 17 percent. Injury crashes to all road users went down by 63 percent from prior years. Interestingly, car volume and travel times stayed almost exactly the same—the typical southbound trip became 5 seconds faster—and there were no negative impacts on streets nearby.

The insertion of a cycle track on this Brooklyn street dramatically improved safety for all road users without reducing daily car through-put.

Additionally, bike lanes are good for business. A study in Portland, OR, found that customers arriving by bike buy 24 percent more at local businesses than those who drive, and merchants along 9th Avenue in New York City showed a 49 percent increase in retail sales after buffered bike lanes were inserted.

New York has dominated the biking headlines in recent years because of its investment under Mayor Bloomberg in a tremendous amount of cycle infrastructure. But many smaller cities are making significant cycling investments, with the goals of reducing car dependence, achieving higher mobility at lower cost, and especially attracting young entrepreneurial talent. More than half of the states in the US already have buffered bike lanes as part of larger downtown networks.

Experience in a large number of cities is making it clear that the key to bicycle safety is the establishment of a large biking population—so that drivers expect to see them—and, in turn, the key to establishing a large biking population is the provision of a useful bike network, one that safely gets many riders where they need to go in a low-stress environment.

Plans under construction on Broad Street properly includes bike lanes out of the roadway.

What constitutes "low stress" depends on the type of street in which the bike network is located. For higher-speed multilane roads like along the Henry Aaron Loop, the bike lanes must be physically separated from moving vehicles to feel safe—either out of the road, as in the current changes being made to Broad Street, or protected by vertical barriers, as in the partially executed but incomplete plans for Water and Canal Streets. When a street is designed to invite speeds well above thirty miles per hour, it is not prudent to include bike lanes without some form of physical protection.

The current deficiencies of Water and Canal Streets point out the difference between two distinct types of cycle facilities, *protected lanes* and *buffered lanes*. Unlike protected lanes, buffered lanes include some space—typically 3 to 6 feet—between the bike lane and traffic, but no substantial barrier. Buffered lanes do have their place, on slower streets where extra driving lanes can be repurposed into cycling facilities. This condition exists downtown on the northern segment of Lawrence Street, the western half of Congress Street, and Spring Hill Avenue, all of which have four lanes where only two are needed. In fact, along Spring Hill, which already includes two parking lanes in its vast 60-foot roadway, there is no reason not to make the new bike lanes protected, since that can be

Without their planned vertical barriers, the new buffered bike lanes on Water Street do not provide a safe environment.

achieved by shifting the parked cars into the street, as in the Prospect Park example shown on page 25.

Along yet slower streets, a simple striped bike lane is a great way to welcome bikes, and also to slow traffic by narrowing oversized driving lanes to the proper width. Downtown Mobile has about a dozen streets that encourage speeding by being about 6 feet wider than needed for the smooth flow of traffic. Almost all of these would benefit from the insertion of a single bike lane to visually narrow the available roadway.

To be safe, these lanes should not be located in the "door zone" between parked cars and a driving lane; a high percentage of biking injuries come from cyclists being doored into adjacent traffic. Fortunately, the typical one-way street in downtown has parking on just one side, meaning that a bike lane on the opposite flank will not create a dooring risk.

Washington, DC: Bike lanes are a great way to use up extra pavement, but nobody wants their daughter cycling in the door zone.

Also not recommended are "sharrows," those prominent in-street logos that advise motorists to share the lane. Recent studies have shown that streets marked with sharrows are in fact more dangerous to cyclists than streets without them. That said, the sharrow logo can be a useful tool for indicating a merge where physical conditions demand that a bike lane must end.

A final type of bike facility already present in downtown is the "shared route." Shared routes are typically yield-flow streets that welcome cars at such low speed that it is safe for them to mix with bikes. Most of the small north-south streets in the western half of downtown already feel safe for cycling, and will become even safer once reverted to two-way traffic as already discussed. But these streets alone only access the quieter, less-frequented part of downtown.

It has been commented accurately that few people cycle in downtown Mobile today. But observing that few people bike in a place without a good network is like saying that you don't need a bridge because nobody is swimming the river.

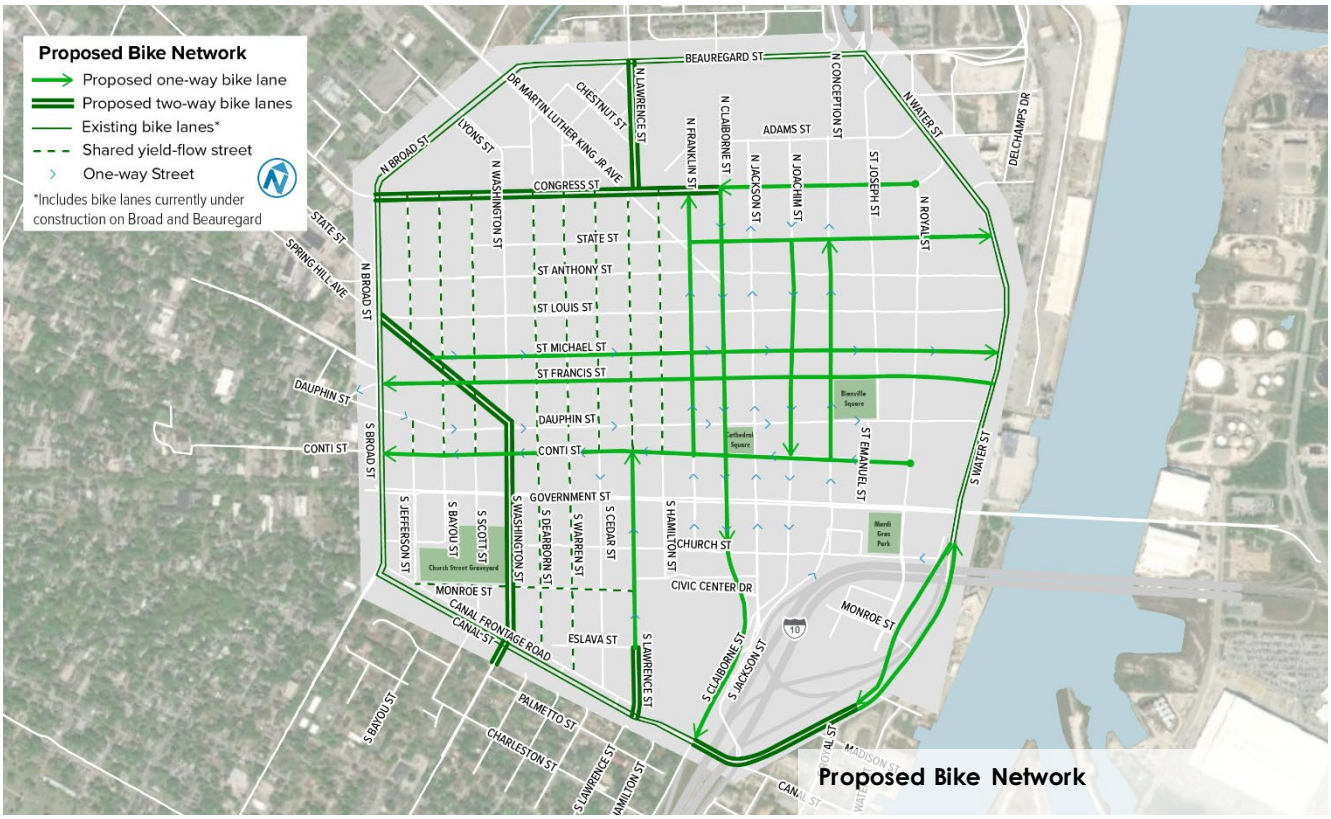
Currently, the downtown area has almost no discernable cycle network within its partially-executed Henry Aaron Loop. This Plan takes advantage of streets with extra lanes and extra-wide lanes to dramatically increase the provision of bike facilities, to the point where together they will create something comprehensive enough to be useful. Only when most cyclists can get to most destinations with minimal stress will the network be adequate to create a significant cycling population in downtown Mobile.

The Bike Plan

A number of different cycling solutions have been recommended for downtown Mobile in recent years, all with considerable intelligence, and all have received our consideration. The plan proposed ahead hopes to be uniquely definitive and implementable as a result of being developed as part of a holistic strategy for the optimization of every street in downtown for the competing demands of driving, parking, and cycling. It is one of many possible good solutions, but it is the solution that coordinates with this Plan's other recommendations regarding two-way reversion and on-street parking provision.

One of the goals of this plan has been to locate low-stress cycle facilities within a few blocks of every address in downtown, and that goal is satisfied ahead. However, the plan arose street by street, out of the opportunities available in each one, which could also be described as each street's need for modification. For this reason, this plan is best described in terms of the different types of interventions that led to the network. These interventions can be organized into six distinct categories:

- Completion of a cycletrack around the Henry Aaron Loop.
- Redeploying excess lanes on Congress, Lawrence, and Spring Hill.
- Absorbing excess width on one-way streets.
- Absorbing excess width and introducing slower flow to Congress, State, and St. Francis Streets.
- Absorbing excess lanes and width on Washington Avenue south of Conti.
- Providing yield streets as shared routes.



Proposed Bike Network

Each of these intervention types is described in detail below.

1. Completion of a Cycletrack around the Henry Aaron Loop

As discussed, the reconstruction underway along Broad and Beauregard Streets will surround the western and northern edges of downtown with a continuous cycle facility that is largely separated from traffic, as befits these high-speed streets. Similarly, two unnecessary driving lanes have already been transformed into a would-be cycletrack on Canal and Water Streets to the south and east; all they are missing are the vertical protective barriers that will allow them to follow through on their initial promise of safety. It should be stated plainly that, in their current configuration, these bike lanes will not attract many cyclists and likely present a greater crash risk than the prior condition. The introduction of substantial vertical barriers—and the purchase of a sweeper to keep these lanes free of trash—will make these facilities safe and inviting.

These four streets add up to a complete loop, minus two important gaps. The first is the heavily-travelled intersection of Beauregard, Water Street, and I-165. A current plan for reconfiguring that intersection does not yet contain adequate bicycling facilities; a proposal for its modification is included ahead in Section 7.

The second gap, a long one, stretches south along Water Street from Church Street to its intersection with Canal Street at Claiborne, roughly from 4 o'clock to 6 o'clock on the Loop. In this segment, alongside the I-10 interchange, Canal is configured with highway geometrics, despite its low traffic volume. It has two lanes in each direction when it only needs one, and each second lane can be transformed into a buffered bike lane. Restriping this segment will create a Henry Aaron Bike Loop roughly 4 miles in circumference.

2. Redeploying Excess Lanes on Congress, Lawrence, and Spring Hill

In anticipation of an onslaught of traffic that never occurred, these three streets were rebuilt with broad four-lane configurations. The western half of Congress Street and Lawrence to its north both hold two pairs of lanes flanking a median, without parking, for which there is little demand. Spring Hill's four lanes are flanked by two parking lanes in a single 60-foot roadway.

A cyclist anticipates buffered lanes on Congress Street.

Due to the low parking demand on Congress and Lawrence, the most obvious restriping solution is to replace the outer two lanes with buffered bike lanes of the type that the City has placed in Water and Canal Streets. Given the lower traffic volumes and speeds, no vertical barriers are needed.

The best solution for Spring Hill Avenue is a classic cycletrack in which the parallel parking is pulled out into the street to protect two curbside bike lanes. In addition to providing an ideal bike facility, this configuration will calm traffic considerably.

In Cedar Rapids, a cycletrack replaces a four-lane street. The cones (and improperly parked vehicle) are temporary!

3. Absorbing Excess Width on One-Way Streets

Downtown Mobile has many one-way streets that should not be reverted back to two-way travel because they are too narrow to do so without losing a flank of parking. However, in their current condition, they are still wider than they need to be. Typically 24 to 26 feet wide, they have ample room for one driving lane, one parking lane, plus an extra five feet or so that serves no purpose except to encourage speeding.

The typical downtown one-way street has a driving lane about 17 feet wide.

With only one lane of traffic, these streets do not exactly invite high speeds; still, introducing a striped bike lane will slightly slow drivers while providing a safe corridor for cycling. Placing that lane on the street's unparked curb will keep bikers out of the dangerous door zone.

The east-west streets that present this opportunity are St. Michael and Conti. Among the many north-south streets with a similar condition, the prime candidates for two one-way bike lane pairs are Conception/Joachim and Claiborne/Franklin, which are well located to bring cyclists to the heart of downtown. Incidentally, south of Congress, Claiborne Street's wider 2-lane segment also has an extra 6 feet in it for a southbound bike lane, which can be partnered with the northbound lane that neighbors have requested in Warren Street.

4. Absorbing Excess Width and Introducing Slower Flow to Congress, State, and St. Francis Streets

As it heads east, four-lane Congress Street narrows to two lanes, and its two wide buffered bike lanes must find a different trajectory. Conveniently, residents in the DeTonti Square neighborhood, concerned about speeding on Congress and State Streets, have asked for a solution that would slow traffic on those east-west corridors.

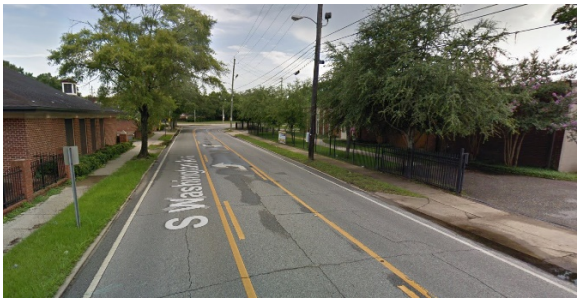
Residents' complaints of speeding on State and Congress Streets can be addressed by introducing slow-flow geometry.

As previously discussed, the best way to slow traffic on a street with limited volume is to introduce slow-flow geometry. In 30-foot wide streets like these, with parking on one side, there are two ways to accomplish this: by adding a second flank of parking, or by adding a single bike lane. Presented with the choice between these two options, neighborhood residents expressed a preference for bike lanes. This approach results in a solution in which the eastbound bike lane introduced to Congress Street's western segment shifts south via the proposed Claiborne Street bike lane to State Street, where it continues all the way to Water Street. Meanwhile, westbound cyclists could take a Congress Street bike lane across the full breadth of downtown.

A similar condition to these two streets exists on St. Francis Street. The new eastbound cycle lane proposed for St. Michael Street could use a westbound partner closer than Conti Street. Meanwhile, safety on St. Francis would benefit from the visual narrowing of its two driving lanes, currently more than 11 feet wide. A single bike lane addresses both issues.

It merits mention that, while Congress and State Streets are more residential in nature, St. Francis Street runs right through the heart of downtown, and is not an obvious choice for slow-flow geometry. This would be a concern if the narrower slow-flow lanes were constricted by two flanks of parking, particularly when it came to the passage of buses and other large vehicles. But the use of a striped bike lane sidesteps this problem—the constriction is merely visual. When a wide vehicle approaches another wide vehicle, it will be able to carefully merge slightly into the bike lane to avoid having to stop.

5. Absorbing Excess Lanes and Width on Washington Avenue south of Conti



South of Government Street to Canal and beyond, Washington Avenue's unwarranted center lane can be replaced by two flanking bike lanes.

South of Government Street, Washington Avenue has three lanes where it only needs two. North of Government, it only has two lanes but these are 15 feet wide rather than 10. Whether it takes the form of an extra lane or extra-wide lanes, the extra 10 feet in Washington Avenue can be redeployed for either parallel parking or bike lanes.

North of Conti, bike lanes are not needed, thanks to all the safe adjacent yield-flow streets, so this stretch of Washington is designated to receive a flank of parking which will benefit nearby businesses. South of Conti, it makes sense to instead introduce a pair of bike lanes flanking the roadway. Making these 6 feet wide flanking

two 9-foot driving lanes (with no centerline—discussed ahead) will have the optimal impact on driving speeds.

These lanes are especially important crossing Canal Street, where they should continue in that direction as the prime bike connection to points further south of downtown. Indeed Washington Avenue maintains an unnecessary 3-lane section for almost a mile, all the way to Virginia Street. While it is beyond the study area, we strongly recommend restriping this entire stretch to match the section proposed north of Canal Street.

6. Providing Yield Streets as Shared Routes

West, north, and south of the heart of downtown, narrow streets with low traffic volumes and slow-speed geometries already provide a number of comfortable unmarked bike routes, especially north and south. As safe as these already are, returning most of downtown's one-way slow-flow streets to a two-way yield-flow geometry, as already suggested, will only make them safer.

A Comprehensive Network

Taken all together, the above street-by-street proposals add up to a robust network that provides low-stress access throughout the downtown, as illustrated by the diagram on page 28. It is not essential that this entire network be built in one fell swoop—although the benefits of doing so in a well-publicized campaign could be enormous. Most important, though, is to remember that downtown cycling cannot be expected to increase dramatically until the network is complete enough to be truly useful.

The Downtown Mobile Bike Plan

Bike Racks Matter Too

As bike ridership downtown increases, so will demand for bike parking. This demand will best be met by a combination of individual bike racks throughout the downtown and bike corrals in the areas with the most cycling customers, like by Bienville Square. Because cyclists are reported to be better spenders than drivers—and much safer bar patrons—it will behoove the City to invest in these facilities.

Locating and specifying bike racks and corrals is beyond the scope of this Plan, but bike parking is an issue that will require considerable attention in the years ahead.

7 Removing Centerlines and Adding Parking Stripes

Another way to limit speeding in downtown Mobile is to remove centerlines from two-way streets. A recent British study found that removing the centerline from six well-used streets effectively lowered driving speeds by an average of 7 MPH. It was found that, like wide lanes, centerlines give drivers confidence that they have a clear path, resulting in more speeding.

An important caveat to consider here is that centerlines can be an important indicator that a street is two-way rather than one-way. As it converts St. Joseph Street and St. Anthony Street from one-way to two-way, the City should stripe centerlines at each intersection so that turning drivers are not confused. But these centerlines should not continue more than 25 feet from the intersection, to limit mid-block speeding.

Removing centerlines from this and other British streets reduced driving speeds an average of 7 mph.

Please note that centerlines are never a feature of yield-flow streets, which typically contain no striping at all. As the City converts its narrow north-south streets to two-way travel, no centerline should be added.

Unlike centerlines, striped parking spaces slow drivers by giving the impression of a constricted roadway. Whether it is marked with a continuous stripe or as individual spaces, white paint at the edge of the parking lane should be a standard feature in all non-yield-flow streets.

8 Avoiding Swooping Geometries

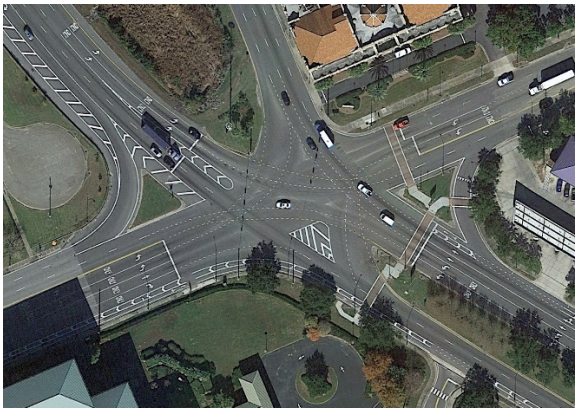
Walkable environments can be characterized by their rectilinear and angled geometries and tight curb radii. Wherever highway-like swooping geometries are introduced, cars speed up, and pedestrians feel unsafe. The road network of any urban area should never be shaped around a minimum design speed, but rather should be designed to accommodate the turning motions of only the largest vehicles that will be using it on a daily basis.

Across the U.S., it is easy to spot those parts of cities that have been reshaped around highway criteria. In Mobile, these mostly occur along Water Street, where slip lanes appear at major intersections. Slip lanes are particularly dangerous because they allow drivers to turn right without stopping, even at a red light. They make the turn while looking over their left shoulder, often oblivious to pedestrians in the crosswalk in front of them.

Fortunately, most of the slip lanes along Water Street occur where there is little pedestrian traffic. The one exception is at Dauphin Street, where the slip lane should be eliminated immediately. Water Street is wide enough to allow ample space for turning trucks without a slip lane.

While very few pedestrians can be seen at the intersection of St. Louis and Water Streets, the reconstruction of St. Louis will provide an opportunity to eliminate the slip lane there as well. This is essential.

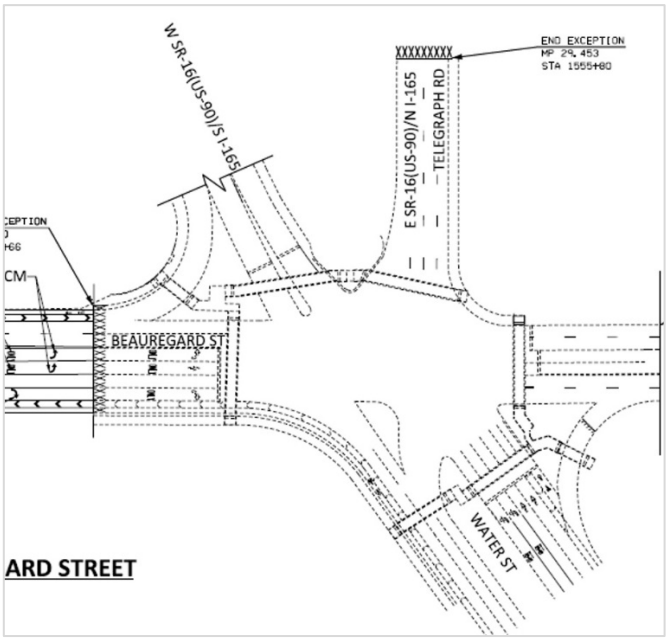
Another area of concern is at Congress Street, where residents of the new Meridian at the Port apartments may jaywalk at that dangerous intersection. It is hoped that the new signal installed 200 feet south of the intersection will entice pedestrians to avoid trying to save two minutes by crossing directly from their front door. This situation should be monitored and redesigned if anyone is hurt.



Highway-style geometrics predominate where Beauregard, Water, and I-165 meet.

Although it doesn't have the highest crash rate, the most dangerous intersection for pedestrians would seem to be the intersection of Beauregard, Water Street, and I-165. The current plan for improving the safety of this intersection presents a slight improvement, but is far from what is necessary to optimize pedestrian safety given the high traffic volumes.

It is shown here, along with its proposed modification. Two alternatives are presented. Both of these, in addition to providing proper bike lane markings, reduce driver speeds and limit overall crossing distances by removing the two slip lanes. They differ in their treatment of the striped no-go zone in the middle of I-165; one tightens the roadway by removing it. The other keeps it to create a mid-street refuge. ALDOT representatives have been presented with both alternatives and asked to respond.



The current proposal to improve safety at Beauregard, Water Street, and I-165.

Two alternative proposals for restriping to optimize safety are illustrated on the following pages.

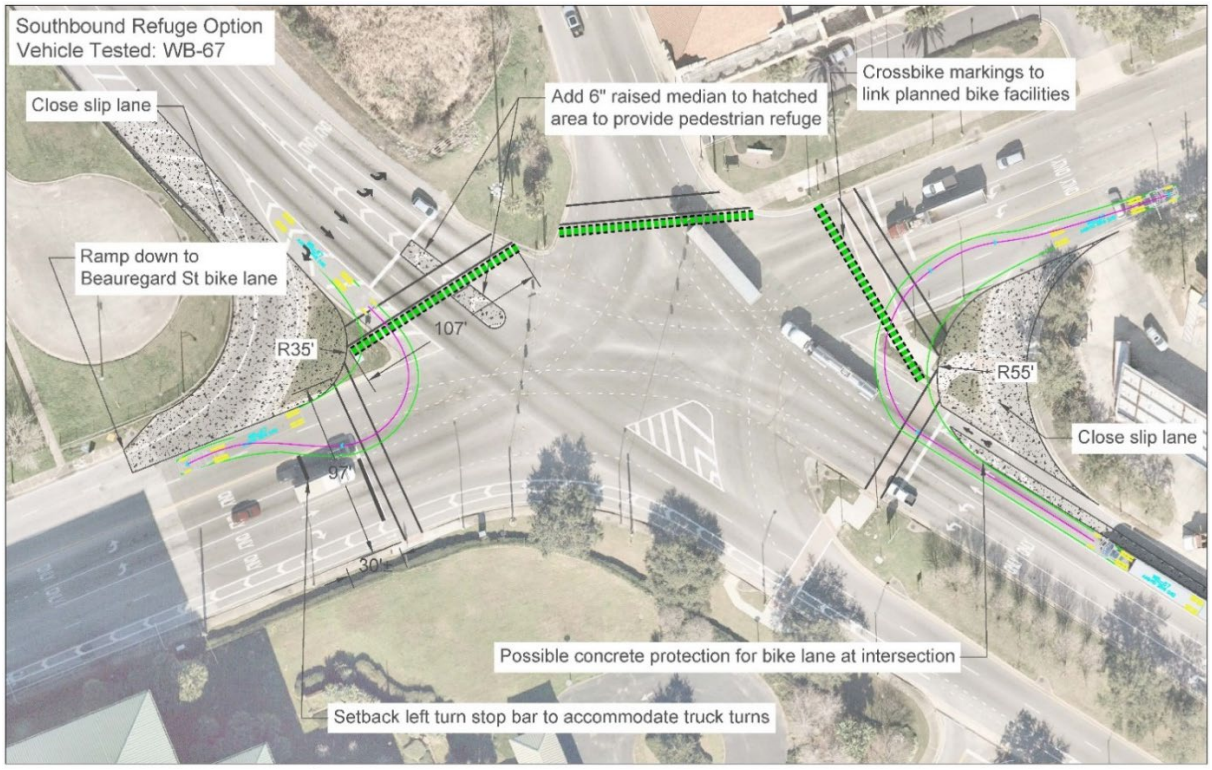
Another problem area is the intersection of Government and Jefferson Streets, where a simple intersection has been given the high-speed geometry of a highway interchange. The proper solution here would be a curb extension that tightens the corner to the minimum radius required by a turning tractor-trailer.

The current plan for reconstruction of the Broad Street area shows this intersection remaining as is. If the curb cannot be rebuilt properly as part of this effort, it should at least be striped to the proper configuration.

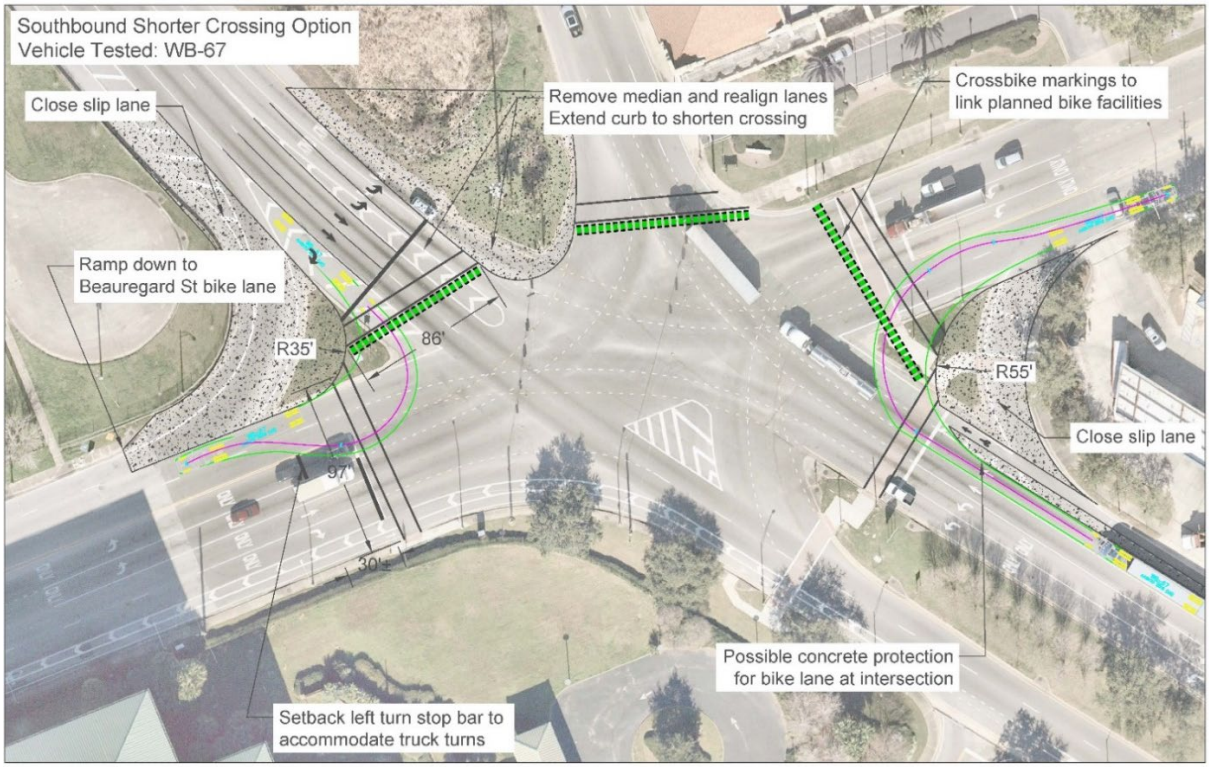
The turn into Jefferson Street from Government Street is designed to welcome high speeds at the expense of pedestrian safety.

The presence of this intersection is a red flag alerting us to existing practices in need of modification. The City should investigate the process that led to the current configuration—is it still in place? We need to ensure that different priorities and criteria direct future intersection design in all places with even a small amount of pedestrian activity.

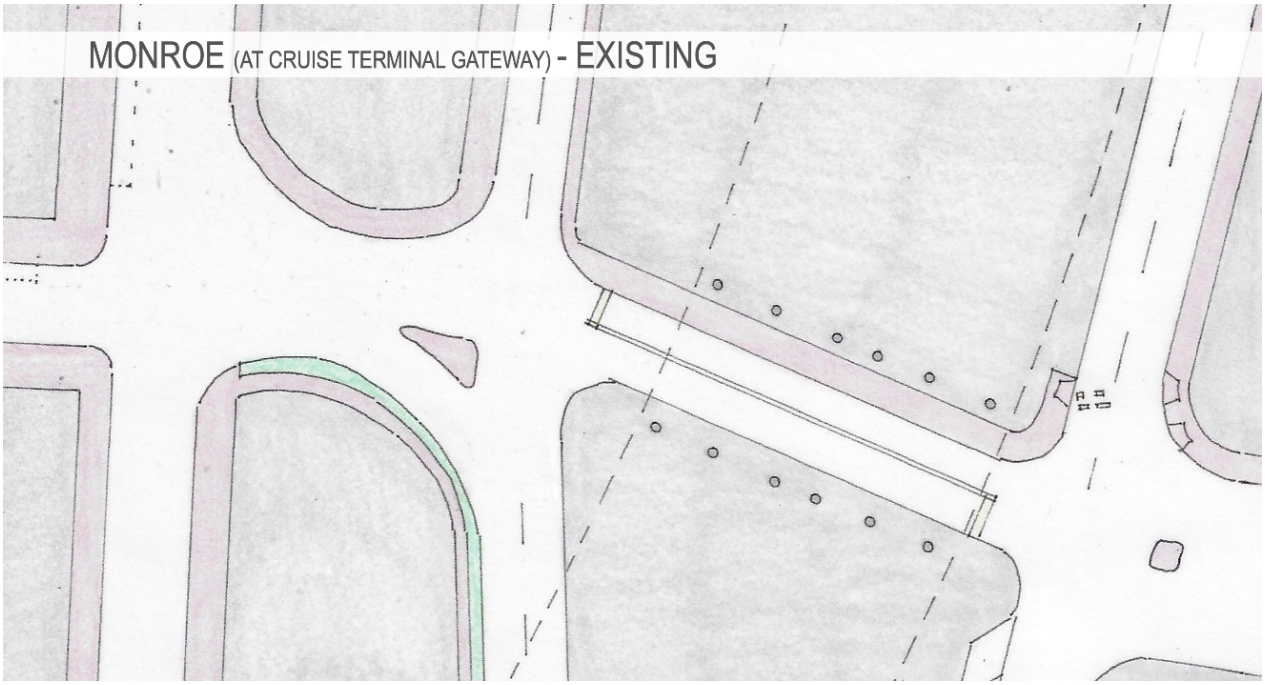
A final key opportunity exists in the area surrounding Monroe Street, where Fort Conde Village sits across the elevated highway from the Maritime Museum and the Alabama Cruise Terminal. No small number of cruise line customers walk through this junction; for many, it is their first taste of Mobile. While the historic streets of Fort Conde Village itself are relatively inviting, this east-west trajectory is unpleasant and unsafe, with inappropriate high-speed geometrics encouraging speeding.



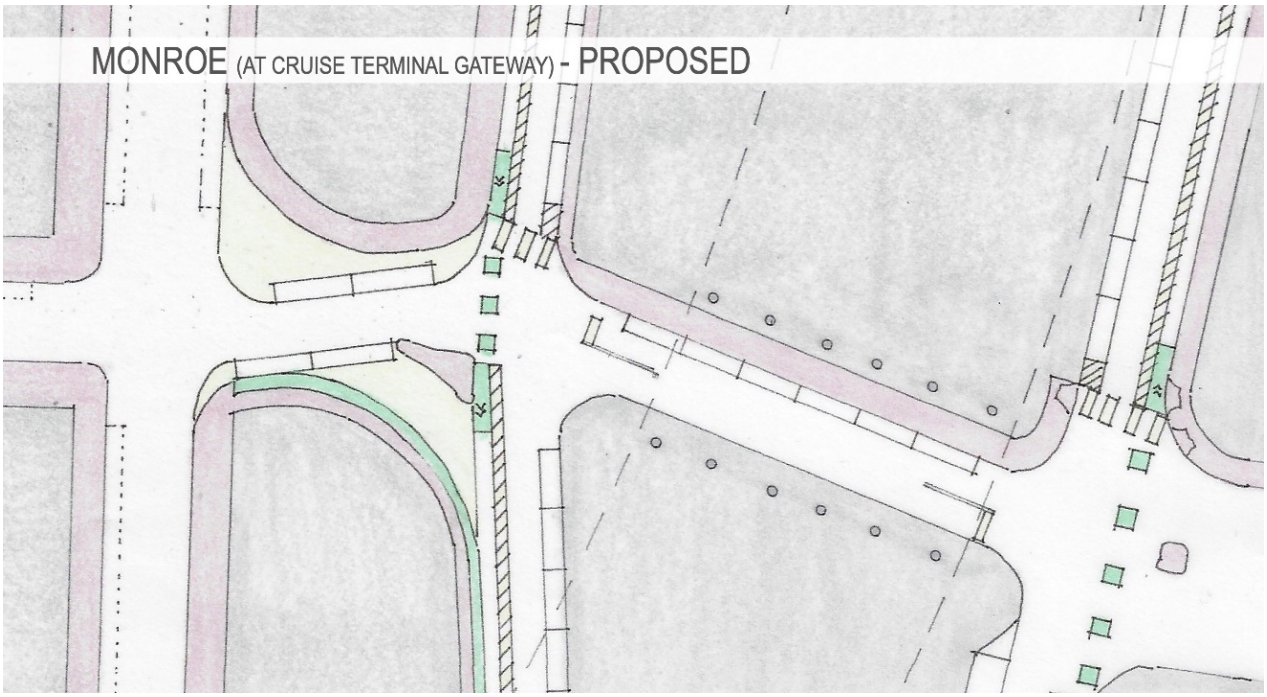
Beauregard and Water Intersection Concept: Pedestrian Refuge Option



Beauregard and Water Intersection Concept: Shorter Crossings Option



Current conditions where Monroe Street meets Water Street



Proposed modifications introduce proper urban lane widths, corner radii, crossings, and proposed bike lanes.

Comparing the proposed layout to the existing conditions, the following changes are visible:

- Without rebuilding curbs, a painted epoxy-stone surface treatment reshapes the excessively swooping corners;
- The slip lane is closed;
- Driving lanes are narrowed to 10 feet, which allows the insertion of two parking lanes just east of Royal and one under the highway;
- Allowed parking on Royal goes from one flank north of Monroe and zero flanks south of Monroe to two and one flank respectively;
- Away from intersections, the Monroe Street centerline is removed;
- As already discussed, each Water Street feeder is transformed from a wide two-lane road to a one-lane road with parking and a buffered bike lane;
- The faded crosswalk is redirected along its desire line to the alternate curb ramp.

These new tighter geometries will encourage walking and slow cars down. It is important here to acknowledge that, in low-volume locations like this one, long-wheelbase vehicles can be expected to cross the centerline into the opposing lane in order to negotiate tight right-hand turns.

While it is nice to be welcomed, this gateway is a prime site for a more dramatic art installation.

Not the subject of this Plan, but worth noting, is that this bridge underpass would be a prime location for a site-specific artwork/lighting scheme inviting visitors to Mobile. Many downtowns have a large number of underpass gateways; Mobile has just this one.

9 Limiting Sidewalk Curb Cuts

A curb cut occurs whenever a driveway crosses a sidewalk. Each curb cut presents a potential danger to people walking and biking who may be hit by a vehicle crossing their path. This danger makes the sidewalk feel less safe and comfortable, an impression that is reinforced by the tilt of the driveway skirt and the missing curb. Additionally, curb cuts eliminate on street parking that would otherwise protect the sidewalk edge, resulting in a visual widening of the street that encourages high speeds.

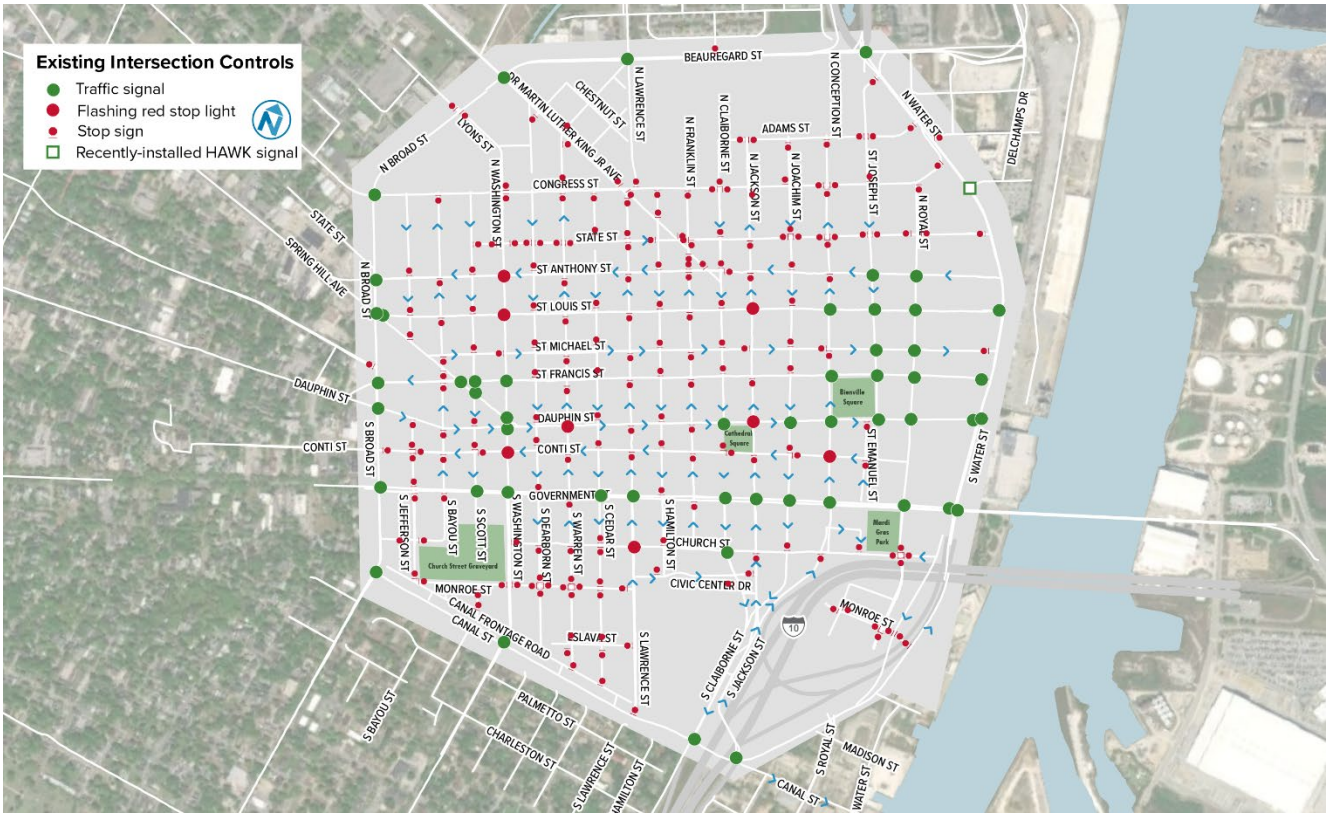
Sidewalks that are continually violated by curb cuts do not feel safe to walk along.

Mobile suffers from excess curb cuts less than many other American cities, but they still present an impediment to pedestrian comfort in some places, most notably along Joachim and Jackson Streets north of St. Francis Street. These curb cuts exist because some large parking lots are made up of consolidated properties that each have a right to their own street access. Even though drivers should be able to circulate between adjacent parking bays internally within a large lot, each parking bay receives its own curb cut, interrupting the sidewalk. Even worse, the curbs on these streets are very low, essentially turning the whole sidewalk into a driveway.

There is no simple fix to this problem, but the goal of protecting the sanctity of the sidewalk should loom large when the investment is eventually made to rebuild these curbs. First, the curbs should not be rebuilt until all efforts have been made with parking lot owners to consolidate entrances into as few as possible. Second, the rebuilt curbs should be the proper height and should be cut by driveways that are no more than 20 feet wide, so that most of the sidewalk is uninterrupted and can be flanked where appropriate by curbside parking.

10 Replacing Unwarranted Signals with All-Way Stops

For many years, cities inserted traffic signals at their intersections as a matter of pride, with the understanding that a larger number of signals meant that a place was more modern and cosmopolitan. Recently, that dynamic has begun to change, as concerns about road safety have caused many to question whether signals are the appropriate solution for intersections experiencing moderate traffic. Research now suggests that all-way stop signs, which require motorists to approach each intersection as a negotiation, turn out to be much safer than signals. Unlike with signals, no law-abiding driver ever passes through the intersection at more than a very low speed. Nobody tries to beat the light. There is considerable eye-contact among users. While people driving slow down, they never have to wait for more than a few seconds to get through, and people walking and biking are generally waved through first.



There are currently 52 signalized intersections in downtown Mobile.

The Evidence

While it would be useful to have more research, the one study on this subject is compelling. It is described in Persaud *et. al.*: "Crash Reductions related to Traffic Signal Removal in Philadelphia" (1997). This study recounts the 1978 removal of 462 traffic signals due to a 1977 state ruling stating that signals were not warranted on intersections with an annual average daily traffic of less than 9000 on the major street or less than 2500 on the minor street. 199 of these signals had adequate data to make it into the study, and 71 non-converted intersections were identified as a control group.

In almost all cases, the signals were replaced by all-way stop signs. The overall reduction in crashes was 24 percent. Severe injury crashes were reduced 62.5 percent overall. Severe pedestrian injury crashes were reduced by 68 percent. While some pedestrians and drivers prefer signalized intersections, this data is too conclusive to ignore. Until a contradicting study is completed, cities should be compelled to conduct an audit of current signalization regimes to determine which signals may be eliminated.

When converting signals to stop signs, cities are faced with the choice of two-way and all-way stops. Clearly, if one street contains tremendously more traffic than the other, a two-way stop makes more sense. However, there is no doubt that all-way stops should be used wherever they do not pose an undue burden, as they are considerably safer. In studying the conversion of two-way stops to 4-way, "the collective results of numerous published studies of such conversions established that crashes are reduced by approximately 40 – 60%, and injury crashes are reduced by 50-80%." (Hauer, 1985.)

Additional Outcomes

One great byproduct of converting signals to stops is money saved: stop signs are much cheaper to install and maintain than signals, with no bulbs to replace nor signal poles to upgrade. This fact is important to keep in mind as one considers the conversion of downtown streets from one-way to two-way. The principal cost of these reversions is signal reorientation. However, while signals are almost always required where multilane one-ways intersect, they are often not required where two-lane two-ways intersect. Moreover, when two-lane two-ways cross at a 4-way stop sign, there is often no need or use for a left-turn lane pocket, and that pavement can be used instead for parking or cycling.

The savings that accrue from replacing signals with stop signs are a factor that advocates for making two-way reversions in a more comprehensive way, rather than piecemeal. It is only when intersecting multilane one-ways are *both* converted to two-way that signals can be eliminated.

A word is also needed about the driver experience that accompanies the replacement of signals with all-way stops. It is true that, compared to a network of signals, a network of stops signs result in a drive that is interrupted by more pauses. But these pauses are all quite brief. Never does the driver have to sit and wait for a light to turn from red to green. Such waits at signalized intersections are often 30 seconds long or longer, and, across a network, can add up to a lot of time wasted. Surprisingly, more stops can mean a quicker commute.

As reported by KQRE in Albuquerque, stop signs have been found to improve both safety and traffic flow downtown.

Application to Downtown Mobile

The State of Pennsylvania required Philadelphia to remove signals where traffic volumes did not surpass a specific threshold, but there is no single standard applied nationally. A general rule of thumb used by some traffic engineers is that, to warrant a signal, an intersection should process a minimum of 800 vehicles per hour, at least 150 of which are on the lower-volume street. 800 vehicles per hour translates into about 8000 trips per day. A review of traffic volumes in downtown suggests that, aside from on Government Street and the Henry Aaron Loop, there is likely not a single intersection whose traffic volume merits a signal.

Aside from traffic volume, the other reason for using signals rather than all-way stop signs is that the latter can cause confusion on streets that have more than one lane in any given direction—who gets to go first? This is a problem that is solved when two-lane one-ways are converted to two-way traffic, as is proposed for St. Joseph and St. Anthony Streets. Once these changes are made, there will likely remain no justification for traffic signals on any throughfares within the study area except for the high-volume streets mentioned above.

It should also be noted that, if and when Canal Street is reduced to two lanes in the future, its signal at Washington Avenue can also be eliminated.

Of the 58 signalized intersections in the study area, 8 are flashing reds at all way or one way stops. These flashing signals may not be needed, but do not decrease safety. However, we recommend they be converted to stop signs to reduce maintenance efforts and costs. Of the remainder, 29 signals control traffic on Government Street and the Henry Aaron Loop. That leaves 21 intersections where signals can be eliminated, a major transformation that can be expected to

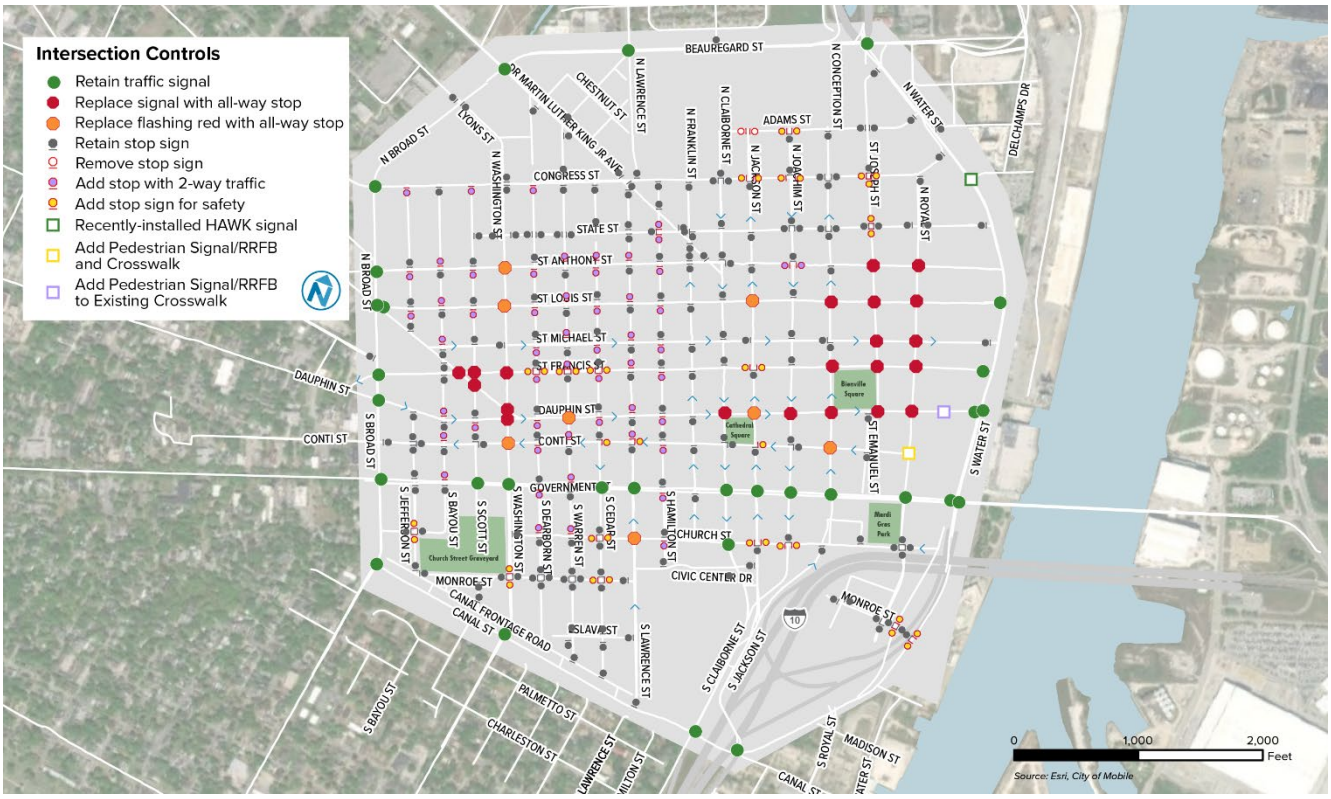
dramatically reduce speeding in downtown Mobile, and over time will save millions of dollars in anticipated replacement costs.

It is to be expected that such a significant change will be met with some resistance, and also legitimate concern that unanticipated changes could cause confusion and resulting collisions. Although previous similar conversions have not led to a temporary increase in crashes, it is recommended that each intersection conversion begin by changing all signals to flashing red lights in both directions as the all-way stop signs are introduced. The signals should be bagged and only removed after a trial period.

An enlightening experience can be found in Albuquerque, where a similar study caused the replacement of nine downtown signals with all-way stop signs. According to local news reports, a negative public reaction caused the city to revert three of these intersections back to signals. This was followed by an even stronger negative public reaction and complaints about increased traffic. As the City's Department of Municipal Development noted, "a stop light has the tendency to build up quite a few cars, whereas a stop sign only builds them up one or two at a time."[1]

Residents also confirmed that the stop signs made them feel safer. One abutter commented that "it reduces accidents because people will slow down for a stop sign, while they'll run through a yellow to beat the red." Reversing the reversal, the city reinstalled the all-way stop signs and removed the bagged lights a few months later.

[1] https://www.krqe.com/news/city-reinstalls-downtown-stop-signs-to-reduce-congestion-speeding/



This plan recommends replacing signals with all-way stop signs in 21 locations, adding 91 new stop signs to calm traffic, and modifying stop signs at around a dozen intersections that were deemed confusing by stakeholders.

The diagram above consolidates all proposals for changed intersection controls in downtown. It includes the 21 signals to be removed (or converted to all-way stops in the interim), as well as locations where stop signs should be added and modified. Specifically, conversations with neighborhood residents and downtown workers identified over 38 locations where new all-way stop signs were requested to calm speeding traffic or to clarify confusion amongst drivers about who has the right of way.

This Plan's review of downtown stop signs was not comprehensive. The changes recommended above come from intelligence collected through the process, but no effort was made to consider each of the more than 200 intersections within the study area. Doing so would be a large separate scope of work, one that comes with a risk, since every modified intersection can produce temporary confusion for drivers. For that reason, this Plan recommends that only the stop sign relocations proposed herein be made in the short term.

11 Providing Proper Crosswalks and Signals

One does not need to commission a downtown streets plan to understand the need for proper crosswalks at all intersections. Yet, as in many cities, crosswalks in Mobile are not consistently well marked, and many are not up to the current best-practice standard of striping. A surprisingly large number are faded to near invisibility. Part of a commitment to safety is ensuring that the annual street-maintenance budget includes funding for bringing crosswalks up to date and keeping them well painted.

Where do crosswalks belong? It can be plainly observed that the absence of a crosswalk will not deter pedestrians from jaywalking across a street that they feel is safe to cross. Unfortunately, perceptions of safety can be wrong. For that reason, it makes sense to provide crosswalks wherever people are currently crossing in significant numbers, as that will help drivers to see pedestrians. Supplementing that crosswalk with a pedestrian-activated beacon such as a HAWK is needed in places of real danger. To curtail dangerous jaywalking, HAWKs should actuate within a few seconds of being triggered.

Independent of Government Street—to be discussed ahead—this planning process identified five main locations in downtown where significant pedestrian volumes are not met by adequate crossing facilities. The first, where I-165 enters to the northeast, has already been addressed in Section 7. The other four are the two ends of Conti Street, St. Francis Street between Royal and Water Streets, and Canal Street at Washington Avenue.

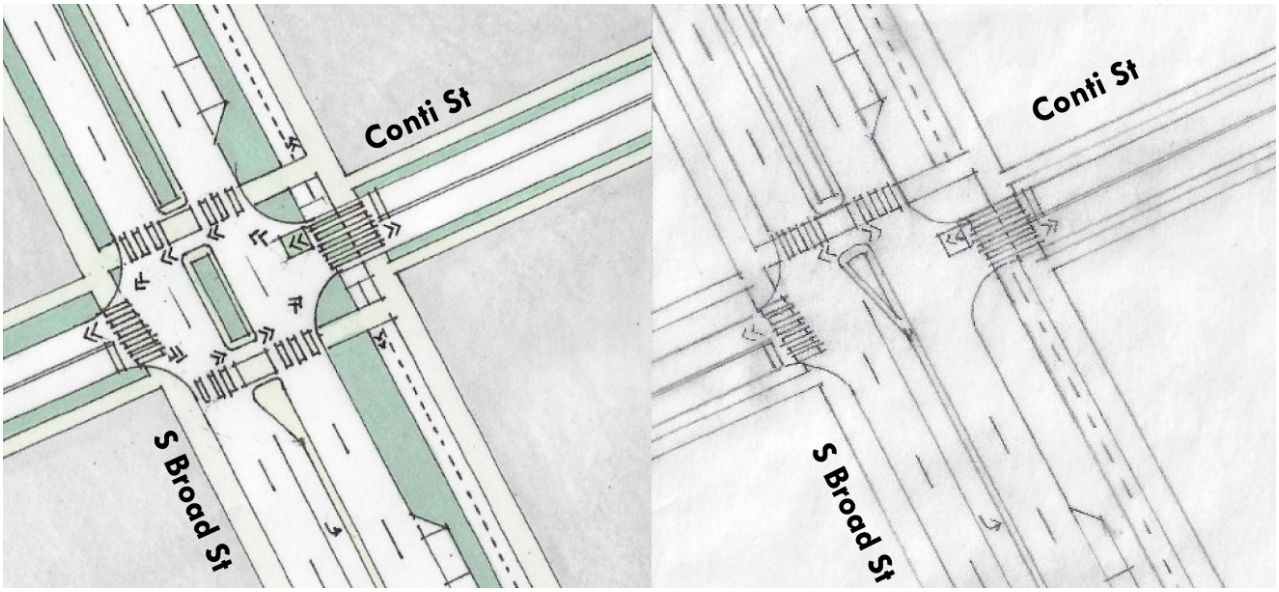
Broad at Conti

Conti Street is a favored corridor to downtown from the west, and many pedestrians and cyclists can be observed crossing Broad Street along its trajectory, even though Broad Street traffic has been heavy and fast, with no crosswalk present. Nearby senior housing and Crown Hall both generate significant pedestrian flow, and many joggers cross here as well. The current plan for rebuilding Broad Street, already under construction, includes no facilities for pedestrians and cyclists, perpetuating the perilous condition there.

The intersection of Conti and Broad is planned to be rebuilt without a crosswalk, despite significant east-west pedestrian and bike traffic.

Because this effort is already underway, an alternative plan was quickly created to shorten Broad Street's center turn lane in order to provide a pedestrian refuge and make walkers and bikers more visible. A design of this nature is needed to reduce the likelihood of future injury crashes.

Because this proposal must be approved by ALDOT, which controls Broad Street, there is concern that the shortened center lane will contribute to traffic congestion beyond their comfort level. As proposed at left below, a refuge zone reduces by four cars the stack of vehicles lining up to turn left onto Government Street, from 13 down to 9. For that reason, an alternative scheme, at right, provides adequate but less ideal one-sided crossing while allowing a stack of 11 cars instead.



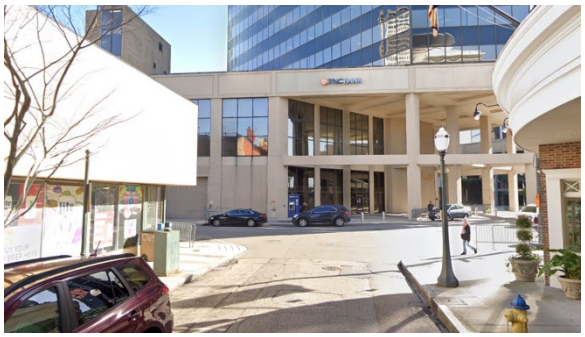
Ideal and compromise solutions for introducing a pedestrian refuge in Broad Street's center turn lane.

It is important to understand this proposal in light of the larger changes that ALDOT has planned for this location. While the current configuration allows two southbound lanes to turn left onto Government Street, the current plan, to streamline the function of that signal, allows only one lane. In doing so, the ALDOT plan reduces the stack of turning cars from 35 to 13. It is in the context of this 22-car reduction that pedestrian and cyclist safety can be vastly improved by a further reduction of two cars.

Because this is a complex and time-sensitive discussion, the traffic engineering team at Nelson\Nygaard submitted to the City a memorandum on December 22, included as an Appendix to this report. It states that the further reduction in the number of stacked vehicles would have only marginal operational impacts, and recommends implementing the more ideal solution at left.

Royal at Conti

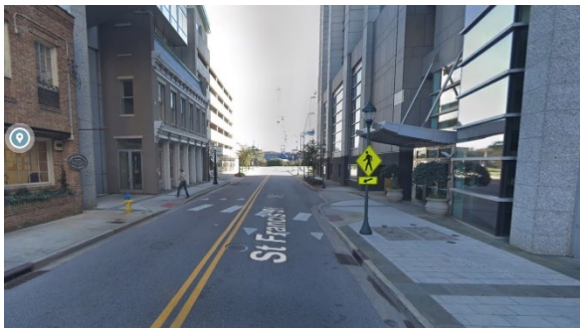
A similar circumstance exists at Conti's eastern end, where pedestrians on Conti regularly cross Royal Street to get to points east, especially the Riverview Plaza Hotel, whose visitors often cross west to get to the heart of downtown. The absence of crosswalks in this location does not deter people from crossing; adding crosswalks would make them safer. Given the conflicting location of the hotel's porte cochère, the southern crosswalk should be located slightly south of the intersection. A pedestrian beacon such as a Rectangular Rapid Flashing Beacon (RFFB) should likely also be considered here, depending on perceptions of safety after the crosswalk is added.



Conti Street terminates at Royal Street across from the Renaissance Hotel, with no crosswalks provided.

St. Francis between Royal and Water

A similar condition occurs in one midblock location, where visitors and employees of the Battle House Hotel and office tower cross St. Francis Street. Here, a crosswalk has recently been provided and is well marked, however drivers reportedly have not been consistently stopping for pedestrians, and a pedestrian beacon such as a Rectangular Rapid Flashing Beacon (RFFB) is therefore recommended in addition.

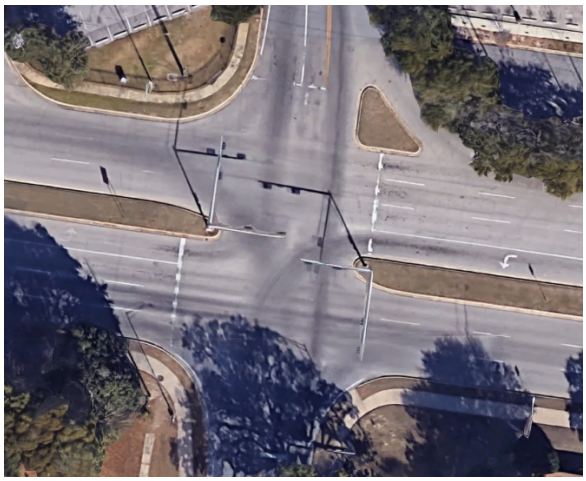


This midblock crossing is well marked but would benefit from a pedestrian beacon such as a RRFB.

Canal Street at Washington

As will be discussed in the next chapter, Canal Street cuts off the Down the Bay neighborhood from downtown, with the only one signalized access point at its center, Washington Avenue. This dangerous, broad crossing is completely lacking in pedestrian facilities: there are no crosswalks or walk signals. Moreover, there is no sidewalk at the northeast corner and no wheelchair ramp to the northwest corner.

While longer-term plans for Canal Street are recommended ahead, a quick fix is needed to provide the bare minimum of safety in this location. A properly signalized crosswalk on the west flank of Washington Avenue, equipped with wheelchair ramps, would seem to be the most expedient solution. Additionally, the presence of bike traffic along this trajectory would suggest that a pair of bike lanes, beginning at Monroe Street, should also cross Canal and continue south. These can easily be inserted by reducing these blocks of Washington Avenue from three lanes to two, which its relatively light traffic allows.



Washington Avenue completely lacks pedestrian facilities across Canal Street.

Spring Hill and St. Louis at Broad

Another downtown intersection demands immediate attention because it is being rebuilt as part of the ALDOT Broad Street effort. Just east of Broad Street, Spring Hill Avenue and St. Louis Streets come together with a striping design that this Plan hopes to change, and a curb configuration that, if rebuilt, will impede the proposed reconfiguration.

In their current configuration, both Spring Hill and St. Louis approach Broad Street with four driving lanes, more than twice what traffic counts demand. This Plan reduces each street to two lanes of traffic and adds parallel parking to St. Louis Street and a cycle track to Spring Hill Avenue. This cycle track moves Spring Hill's two parking lanes away from the curbs where it protects the bike lanes.

Where a cycle track enters an intersection, the proper solution is to create a raised island out of the parking lane and door-buffer zone. Because the bike lane hugs the curb, the curb extensions in the current parking lane need to be removed. Were this block not under construction, a compromise solution would be devised; in this case, however, it is possible to get it right. The drawing on the following page shows the proposed solution superimposed atop the current plan.

Placing a proper cycle track along Spring Hill Avenue requires that its two current curb extensions be replaced with refuge islands.

It is unfortunate that extremely broad curb cuts on both streets limit the amount of parallel parking that can be provided—thus the broad striped zones. A more optimal solution would narrow these to provide more parking stalls than shown here.

Trip-Hazard Curb Ramps

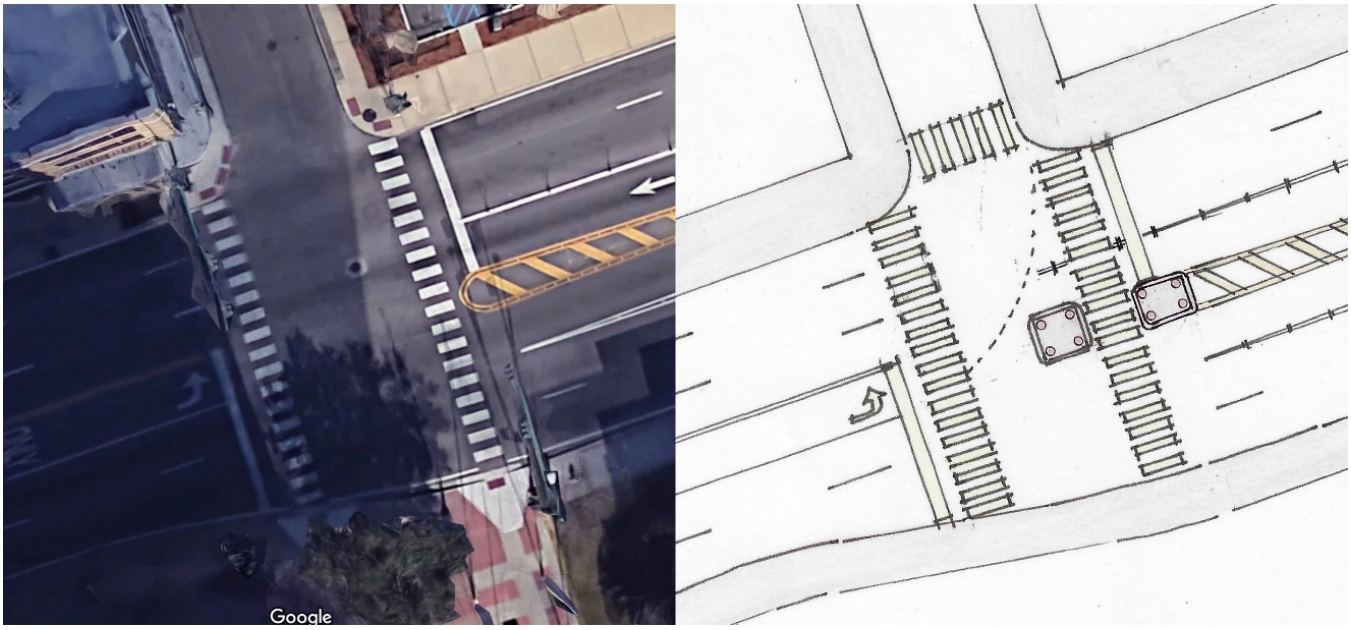
A number of residents complained about the City's newest standard for inserting corner curb ramps at intersections. This solution provides legal wheelchair access but contains a raised central section that can present a trip hazard to pedestrians. When the corner radius is particularly small, this central section becomes a small nub that can be easily overlooked and over-stumbled.

Opposing corners at St. Francis and Joachim show the problematic and preferred ramp solutions.

The less hazardous solution at these corners is to build a continuous curved skirt, as can be found at some of downtown's slightly older intersections. It is recommended that the City replace its current standard with this older one.

Government at Conception

The most crash-prone intersection in downtown is at Government and Conception Streets, where drivers emerging from the Bankhead Tunnel or US-90/98 tunnel are often tempted to make illegal turns. Under existing conditions, flag posts in the street do not effectively impede these turns, and pedestrians are additionally put at high risk by the high-speed tunnel traffic. Previous ALDOT proposals have suggested placing a median through this intersection, which threatens to limit access to Conception Street and also to result in the higher driving speeds that occur whenever potential conflicts are eliminated.



The proposed modification at Government and Conception would limit illegal turns but not legal ones.

The proposal above is one of several that should be considered, and is presented in the hope that a safe solution need not include limiting left turns from Government onto Conception. It provides pedestrian refuge islands with corner bollards, and adds two flags flanking the crosswalk to impede right-hand turns from the tunnel lane.

The refuge to the east also provides a safe location for a prominent sign. "NO TURNS, $500 FINE" is one suggestion.

Government Street in General

The most dangerous street in downtown Mobile is also the hardest to fix. Government Street is the highway that cuts straight through downtown, inviting large volumes of vehicles at relatively high speeds. While cars travel at or below 30 mph on most downtown streets—meaning a pedestrian is likely to survive a crash—cars on Government Street tend to drive over 40 mph, the speed at which 85% of pedestrian crashes are fatal.

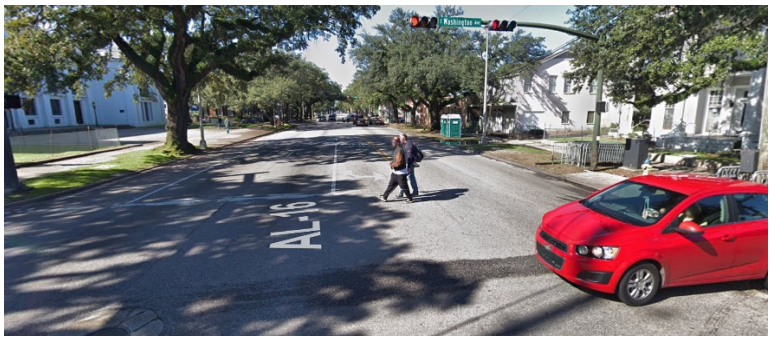
Hamilton is one of six cross streets that lack signalized crosswalks on Government.

Additionally, the street is controlled by the Alabama DOT, which means that the City cannot act unilaterally to make it safer, and any attempts to do so must work their way through a lengthy State approvals process that has historically avoided making pedestrian-friendly changes that threaten to impact the flow of traffic. This orientation is demonstrated by the absence of signals and crosswalks at any intersection that does not already warrant a signal for managing motor vehicles. It can be changed if ALDOT wants to see it changed, and encouraging this revised outlook is one objective of this Plan.

There is always a temptation to argue about how much a state DOT values non-motorized mobility—especially walking—and in what order it ranks the three fundamental street design goals of convenience, safety, and economy. But these arguments are wasted breath, and in Mobile can be supplanted by the simple question: are there signalized crosswalks along Government Street at Franklin, Warren, Dearborn, Bayou, and Jefferson Streets?

These six locations regularly receive north- and southbound pedestrians and cyclists who are unlikely to walk 250 feet out of their way to reach a signal. The resulting jaywalking puts them in grave danger and can be averted with the installation of crosswalks and pedestrian-activated signals. Activated only at pedestrian request, these signals would not be expected to have a meaningful impact on driver convenience.

In any conversation about Government Street, it is also important to understand how traffic functions on that corridor. Normally, flow is quite steady and convenient. On occasion, when it becomes congested, the delay is due not to impediments within the downtown, but to constrictions further downstream, principally in the I-10 tunnel. At these times, the principal role of Government Street is not moving vehicles, but storing vehicles. For this reason, adding signals along this downtown stretch will simply attenuate the queue of stored cars without adding any significant delay.



Pedestrians cross Government Street along the west flank of Washington Avenue without the benefit of a crosswalk.

It is true that, during times of light traffic, having to stop for crossing pedestrians and cyclists will indeed add slightly to driving times. . . as it subtracts markedly from walking and cycling times, and dramatically improves safety. While such a trade-off might not be advisable along the vast majority of State Highways where no one walks or bikes, it is the proper context-sensitive solution within Mobile's five pedestrian-activated signals along Government Street deserves to be a highest priority. While this outcome is pursued, immediate steps can be taken to improve the existing signalized intersections along this corridor. Currently, crosswalk striping is incomplete and faded; full crosswalks must be brightly striped in line with both sides of every signalized cross street, not just one. Each flank should receive a full pedestrian signal, and each signal should be timed with an LPI (Leading Pedestrian Interval). The LPI gives pedestrians the walk sign a few seconds before the light turns green, allowing them to claim the crosswalk before it is encroached by turning vehicles. A study of LPIs found that they cut the number of turning crashes by 28% and reduced crash severity by 64%.

Further suggested improvements to Government Street would face an uphill battle. The current traffic loads argue against reducing the number of lanes, and the current lanes are not excessively wide. A large amount of traffic will continue to move quickly on this street. But the signal recommendations above will have a profound impact on safety, and should be implemented as soon as possible.

Vastly improving the safety of downtown Mobile's most dangerous street is not a pipe dream. Earlier recommendations to add back missing parallel parking were recently implemented, with positive outcomes. The street is scheduled to be resurfaced and restriped within the next several years. The City should petition ALDOT for the needed changes immediately.

12 Priorities

Downtown Mobile is truly poised for a renaissance. As the COVID-19 pandemic wanes and more people feel comfortable going out, there is likely to be a surge in demand for its restaurants, bars, shops, and other unique social spaces. Similarly, as travel picks up, downtown can again become a regional destination for people seeking street life, urbanity, and all the other things that only our historical downtowns can offer. There is no better time than now to make the limited investment necessary to transform its street network—using mostly paint—into the safe and welcoming environment that this rebirth may need to fully take root.

Other cities have oppressive traffic in their downtowns that creates an impediment to change, as people worry that putting excess driving lanes to more productive use as parking or cycling facilities might cause gridlock. Mobile is different. With the exception of Government Street, not a single throughfare within the Henry Aaron Loop experiences more than 5000 car trips per day—half the amount that can easily be handled by a small 2-lane street. There is no reason that the extra lanes downtown can't be repurposed quickly. The only possible impediment would be a lack of will.

Among the people of Mobile, the will is strong. Through the course of this study, several hundred residents enthusiastically shared their hopes for a more walkable, livable, and business-friendly downtown, and their desire to see it quickly. They are discouraged that it took nine years to achieve nine new parking spaces in a surplus lane on Government Street, and that Conti Street still ends at Royal Street without a crosswalk to the Hotel. They are disappointed that promised protected bike lanes on Water and Canal Streets remain unprotected from high-speed traffic. And they are frustrated that somehow an imported "universal" life-safety code, by requiring wide streets, is ironically responsible for the high-speed driving and disproportionate injury rate along its most iconic and touristed street.

But recent changes give cause for hope. Under the current administration, those much-requested parking spaces finally did appear. A progressive and best-practices-focused engineering department is poised to approve the return of two-way traffic to St. Joseph Street. And Broad Street is being rebuilt with a first-class separated bike facility along its entire length.

This Plan hopes to capitalize on that momentum and the current enthusiasm around downtown livability to spur a dramatic collection of changes quickly. While every change recommended herein deserves to be implemented soon, about half of them are more urgent than the others, because they can be expected to produce disproportionately positive outcomes. These first-rank interventions can be grouped into five categories: Government Street, work already happening, two-way reversion / signal elimination, a foundational bike plan, and Dauphin Street calming.

1. Government Street

To have the most impact, go where the most injuries are. Due to its ALDOT ownership, changes to Government Street must work their way through a lengthy bureaucratic process before they are implemented, so the City must do all it can to jump-start and, if possible, short-circuit that process.

Missing crosswalks and, eventually, missing signals should be added to Government as quickly as possible, which is distinctly quicker than is probable via business as usual. Until Government can be safely crossed at every intersection, it will remain the greatest impediment to the safety and walkability of downtown. And with an injury crash roughly every few months, its intersection with Conception Street demands immediate improvement.

2. Work Already Happening

The way this study can have the fastest impact is if its recommendations are accepted and implemented for those streets currently in the construction pipeline. While faster progress is hoped for on ***Government Street,*** scheduled repaving and signal updates prevent upcoming opportunities that cannot be missed for improving its safety. The planned restriping of the ***Beauregard/Canal/I-165 intersection*** should be modified as discussed herein. ***St. Louis Street,*** currently being rebuilt, should be narrowed slightly and otherwise modified as this Plan describes. Similarly, the reversion of ***St. Joseph Street*** to two-way traffic should include the slower geometries and additional parking recommended here. ***Broad Street's*** new intersections with Conti Street and Spring Hill Avenue are also most easily addressed as that corridor's reconstruction is completed.

3. Two-Way Reversion / Signal Elimination

The most dramatic overall change to circulation and safety in downtown Mobile will be most effectively and safely accomplished if implemented all at once: the additional reversion of nine other streets to two-way travel for most of their length, and the corresponding replacement of traffic signals with all-way stop signs that this reversion makes possible. Just as traffic studies confirm that St. Joseph Street can easily handle two-way traffic, no traffic study is needed to know that ***St. Anthony Street,*** with its light traffic, can be reverted immediately. The additional eight quiet neighborhood streets of ***Hamilton, Lawrence, Cedar, Warren, Dearborn, Scott, Bayou, and Jefferson*** can be made two way immediately without any traffic concerns. Completing this reversion largely in one fell swoop, as was accomplished recently in New Albany, Indiana, is the best way to draw public attention to the change and to engender cautious driving as it happens.

With its multilane one-ways eliminated, not a single downtown intersection apart from Government Street or the Henry Aaron Loop can be expected to warrant a traffic signal. The reversion to two-way travel and the replacement of ***21 unnecessary signals*** with all-way stops will best happen hand-in-hand and all at once, both for the safety reasons described above and to avoid long-term maintenance costs and the cost of temporarily mounting additional unwarranted signal heads at newly multi-way intersections.

4. A Foundational Bike Plan

Building bike lanes in American cities can be a frustrating endeavor, as one can keep adding lanes without noticeably growing the cycling population, until a threshold is crossed beyond which cycling actually feels safe. While every bike lane recommended in this plan is considered the best solution for improving its street, not all of them are likely needed to cross that threshold.

To make cycling a truly viable alternative to driving in downtown Mobile, the quick implementation of the following facilities is recommended:

- The physical protection of the bike lanes on ***Water and Canal;***
- The new bike lanes recommended on ***Canal south of Government Street,*** completing the full Henry Aaron Loop;
- The pair of bike lanes in ***St. Michael and Conti,*** creating a safe east-west path through the heart of downtown;
- The pair of bike lanes in ***Conception and Joachim,*** creating a safe north-south path through the heart of downtown;
- The pair of bike lanes in ***Claiborne and Lawrence,*** creating a safe path from points south to the eastern part of downtown;
- The bike lanes on ***Washington Street and Spring Hill Avenue***, creating a safe path from points south and west to the western part of downtown.

5. Dauphin Street Calming

This plan begins and ends with ***Dauphin Street,*** Mobile's social center, hindered and endangered by the traffic that speeds down its two-lane stretch from Broad to Claiborne. For the cost of removing a few no-parking signs, this liability can be corrected in a single morning.

If the will is there.

Interlude: The Promise Of Canal Street

The southern boundary of downtown Mobile is Canal Street, which comprises a major stretch of the Henry Aaron Loop, yet handles very little traffic. Once a relatively narrow street, it was widened to seven lanes in 1960s in anticipation of a new traffic pattern that never materialized. Its current traffic volume could nearly quintuple before requiring a roadway more than two lanes wide.

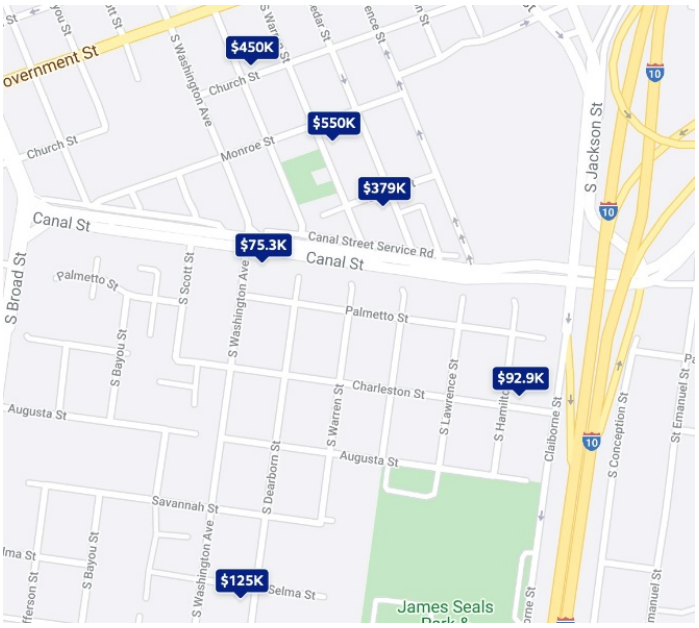
Canal Street is not only wide, it is also designed like a highway, with high-speed geometrics that are antithetical to pedestrian life. Appropriately, it has few cross streets, and no crosswalks or crossing signals. Not even Washington Avenue, the only cross street over a half-mile stretch, is equipped with pedestrian facilities. While a fair number of pedestrians and cyclists cross Canal Street at this point, they do not do so safely or with any accommodation.

A high-speed, high-capacity highway with little traffic, Canal Street functions like a moat on the southern edge of downtown.

The physical evidence on the ground would suggest that Canal Street was built not just to speed traffic but as a barrier between the Down the Bay neighborhood and downtown. It was designed with a frontage road to the north, so that local traffic can largely avoid it. To the south, seven approaching streets were turned into cul-de-sacs or otherwise eliminated. A largely continuous stone wall along this edge completes this picture of exclusion.

Without dwelling on the history surrounding the expansion of Canal Street, it is important to acknowledge that this roadbuilding effort followed a formula that was commonplace not just in Alabama or across the South, but throughout the United States: highways were typically built through black neighborhoods, often cutting them off from white neighborhoods. True to form, all of the land used for the expansion of Canal Street was claimed through the condemnation of properties to the south. Not even the frontage road built to serve the Church Street East neighborhood was created out of private property there. Rather, Canal Street's original, narrow roadbed became this frontage road, and the seven-lane highway obliterated the northern half of ten blocks to the south, with many dozens of homes destroyed.

The 1891 Sanborn property map shows some of the blocks that were reduced to about half their size through condemnation when Canal was widened southward.

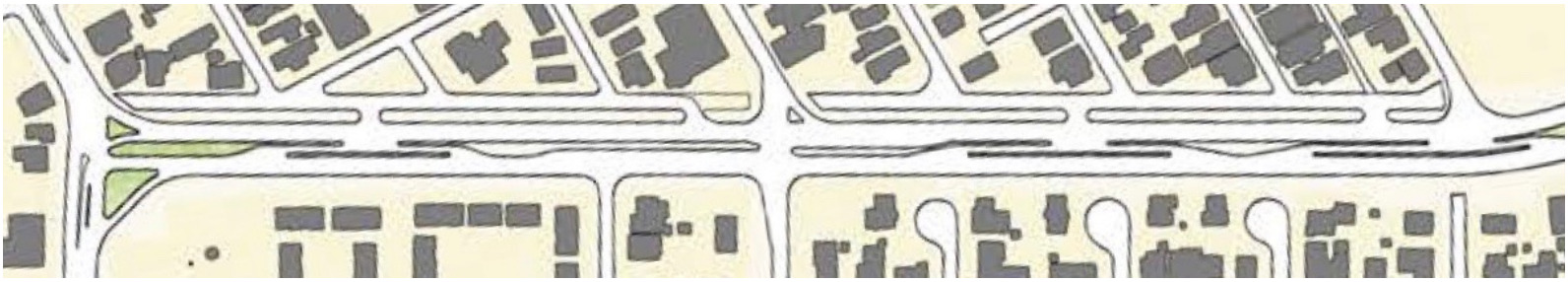


Property values north and south of Canal Street reflect its history of segregation (trulia.com).

Many American cities are currently working to heal wounds like Canal Street, but few have an opportunity like the one that Canal Street offers. Unlike in almost every other city, the traffic welcomed by the Canal Street expansion never materialized. The vast majority of the roadbed is now available to accomplish a number of allied goals: to slow cars to a safer pace; to provide more opportunities for pedestrian, cyclist, and vehicular crossings north and south; to enhance the livability and value of the Down the Bay neighborhood; to increase the downtown housing supply; to broaden the customer base for downtown businesses; and perhaps to heal some of the old wounds of segregation and condemnation.

This is not a new idea, and one idea for its execution was floated seven years ago in the DPZ plan for downtown. As visible in the second drawing on the following page, Canal Street can be returned to its original location along the frontage road, allowing the Down the Bay neighborhood to reclaim the properties once condemned along its northern edge. Also visible in

the drawing is the reknitting of the street grid; once traffic along Canal Street is calmed, the cul-de-sacs that terminate Dearborn, Lawrence, Warren, Cedar, and Hamilton Streets can be reconnected north to the Church Street East neighborhood.



Existing conditions: a seven-lane highway with a frontage road to the north.

A proposal put forth in the 2013 Downtown Mobile plan by DPZ accrues properties to the south.

Another proposal worth considering would accrue properties to the north.

An alternative proposal, at bottom, is presented here to communicate that a range of solutions is possible. In this plan, properties are accrued instead northward to the Church Street East neighborhood, restricting Canal Street to the southern half of its roadbed. The existing frontage road becomes a rear parking lane for these new lots, which are shown holding 23 new buildings facing south. At 3 stories tall, these buildings could hold 69 ample apartment flats facing Canal Street. The plan also shows the new roundabout being built on Broad Street, which aligns well with this southern Canal Street trajectory.

This plan has not been vetted for possible utility conflicts, and both of the above proposals share a key disqualifying flaw: they were completed as part of downtown plans in which the study area ended at Canal Street, without any participation by the Down the Bay neighborhood. While

representatives of the Church Street East Neighborhood Association were generally excited about the potential of such a concept, a deeper dive into the goals of both adjacent communities would be an important next step were the City to pursue an effort of this type. Given the potential benefits, a subsequent planning study focused on the Canal Street corridor seems like an idea whose time has come.

Page

PART II: STREET-BY-STREET MODIFICATIONS

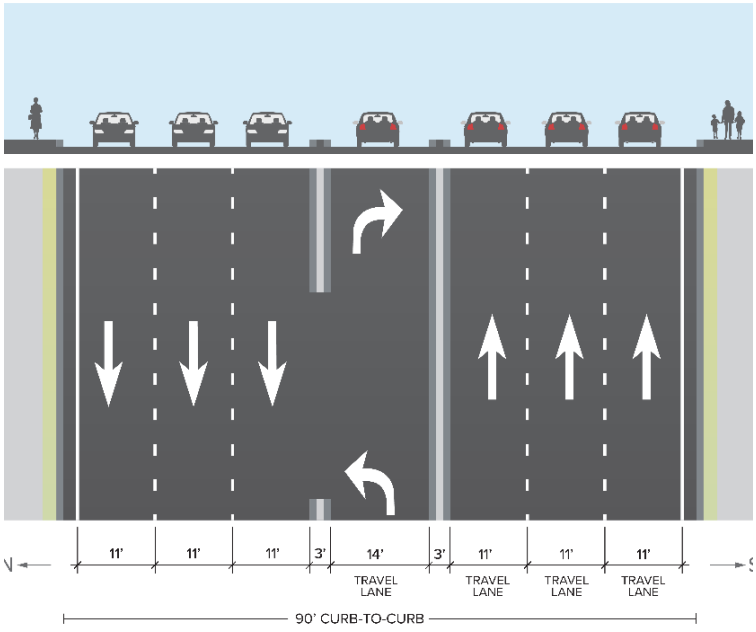
PART II:
STREET-BY-STREET MODIFICATIONS

1 East-West Streets from North to South

Beauregard Street

Beauregard is a two-way street that carries less than 20,000 vehicles a day. It is currently under construction to redevelop the corridor. Given the reconstruction, significant changes to its plan are not possible. That noted, Beauregard's intersection with Water Street is in need of modification to improve walking and biking connectivity, as already described in Section 1.8.

View east between Lawrence and Jackson



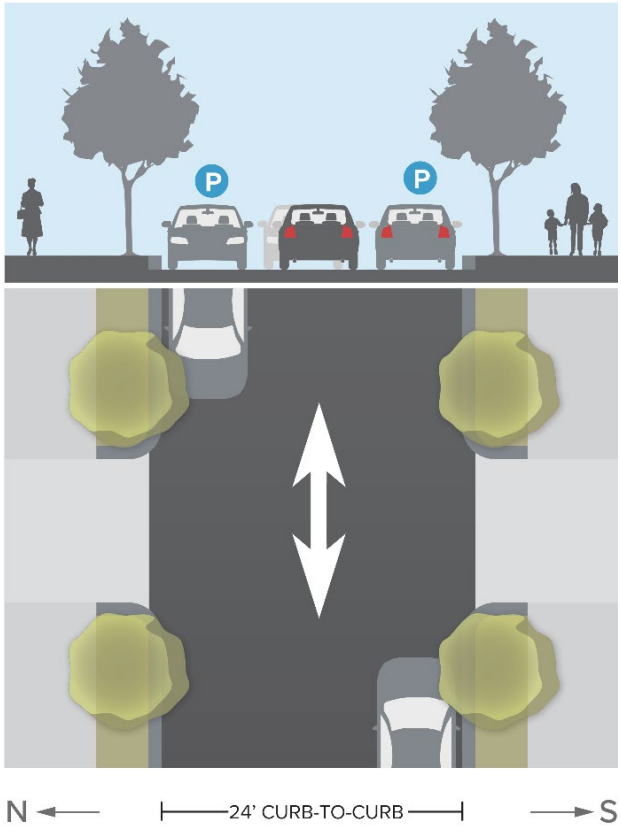
Beauregard, Typical

Adams Street

Adams is a 24-foot-wide two-way unstriped street with low volumes and scattered parking. This parking is informally allowed on both curbs in a traditional yield-flow configuration, where a narrow clear zone in the center of the roadway safely handles light traffic in both directions. However, a relatively light parking load results in less friction than the ideal, resulting in in some speeding.

Adams contains a stop sign at Jackson Street, where turning northbound traffic is strangely given priority. This stop sign should be removed and replaced by an all-way stop a block east at Joachim Street, where it will be more effective at slowing speeding traffic.

View west between St. Joseph and Conception



Adams from Claiborne to Water

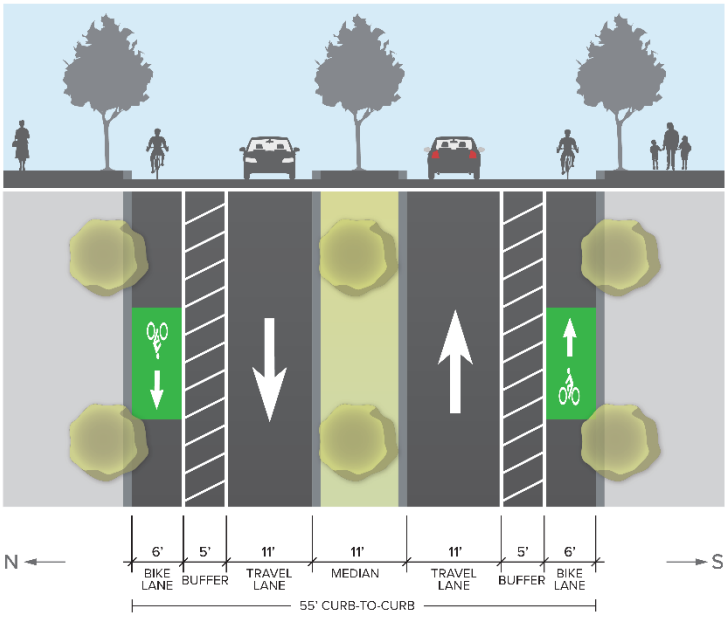
Congress Street

Congress is a two-way street that carries fewer than 2,500 vehicles a day. West of Franklin, it is striped as a boulevard with two travel lanes on either side of a center-running turn lane that sporadically contains a planted median. East of Franklin, Congress loses its median and narrows to 30 feet, containing one travel lane in each direction and on-street parking on the south curb.

An important cycling corridor, Congress Street's redesign responds to its changing width. In its wider western stretch, two of its five driving lanes, not needed for traffic, are restriped as buffered bike lanes. In its narrower eastern segment, the eastbound bike lane shifts over to State Street via Claiborne Street, since neither Congress nor State is wide enough to contain a two-way facility without losing its on-street parking. The transition between Congress Street's east and west segments is accomplished through the gradual elimination of the center lane and bike buffers, as follows:

- **Broad to Lawrence**: restripe each side of the median as a 11-foot driving lane and a 6-foot bike lane separated by a 5-foot buffer.

View east between Warren and Dearborn



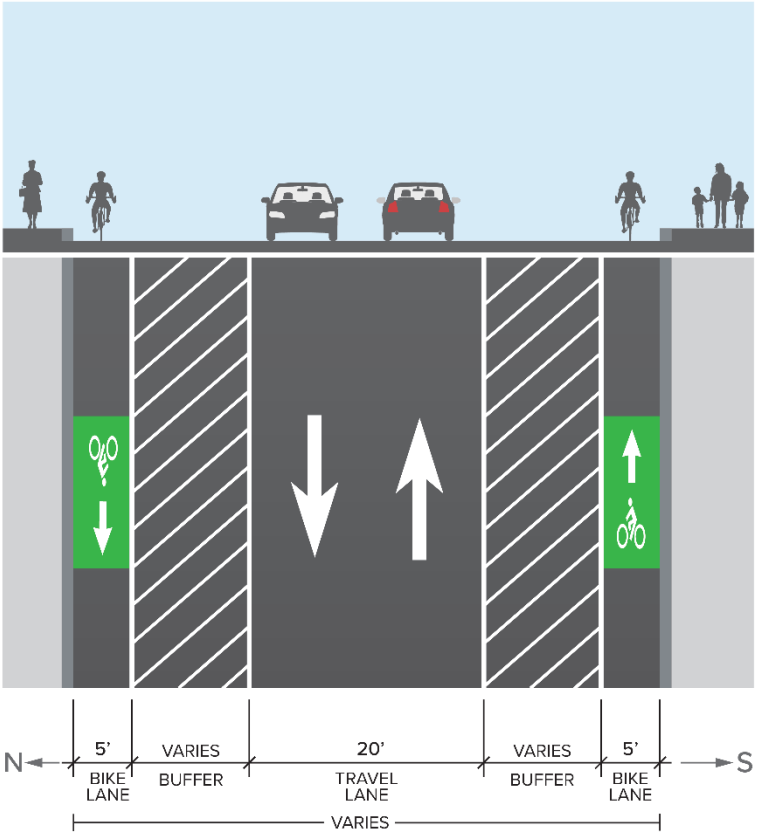
Congress from Broad to Lawrence

Congress Street (continued)

- **Lawrence to Franklin:** Congress gradually narrows from 55 feet to 30 feet. The first half of this narrowing should be handled by the gradual elimination of the center lane, along with a slight narrowing of the driving lanes from 11 to 10 feet. The second half of this narrowing should be handled by the gradual elimination of the bike buffers.

To further calm traffic, the intersections with St. Joseph, Joachim, and Jackson Streets should receive all-way stop signs.

View west between Lawrence and Franklin



Congress from Lawrence to Franklin

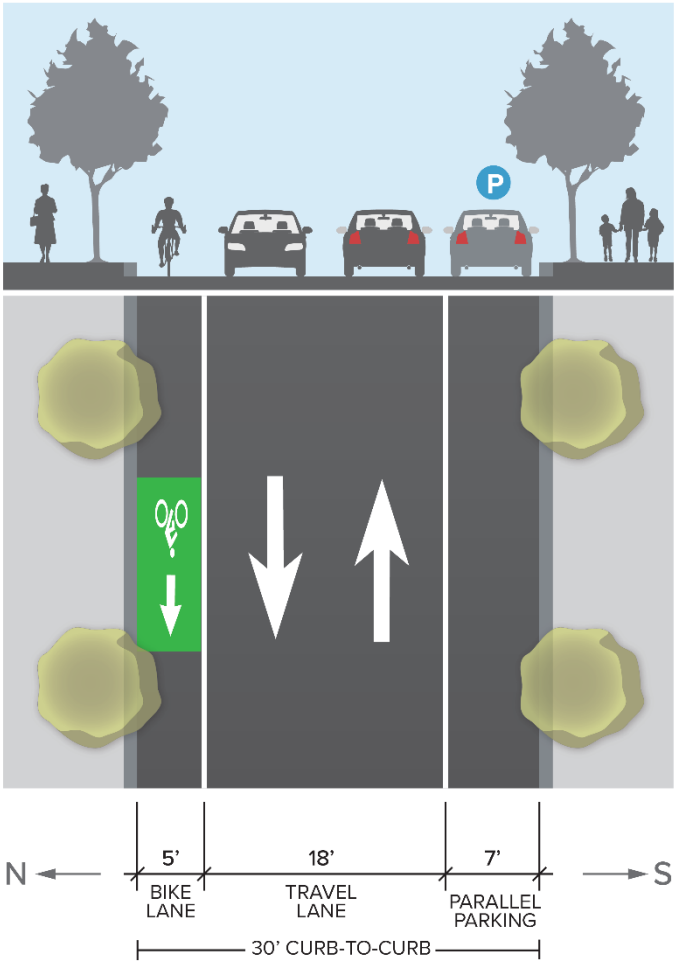
Congress Street (continued)

- **Franklin to Claiborne**: restripe as a 20-foot two-way travelway (no centerline) and a 5-foot bike lane on both curbs.
- **Claiborne to Royal**: restripe as an 18-foot two-way travelway (no centerline) and a 5-foot westbound bike lane on the north curb and a 7-foot parking lane on the south curb.
- **Royal to Water**: stripe two parking spaces to the south curb just east of Royal.

To enable a cycling connection to Water, add thermoplast shared use markings to the sidewalk on the south curb (pictured below). Additionally, paint a green cross-bike (pictured below) adjacent to the crossing of Royal and add a continental crosswalk with a green cross-bike across Congress on the west leg of that intersection. When funding is available, rebuild the intersection of Congress and Water that closes unnecessary slip lanes and allows room for a bike lane on the north curb.

Shared use sidewalk markings

View east between Jackson and Joachim



Congress from Franklin to Royal

Green cross-bike next to a continental crosswalk

State Street

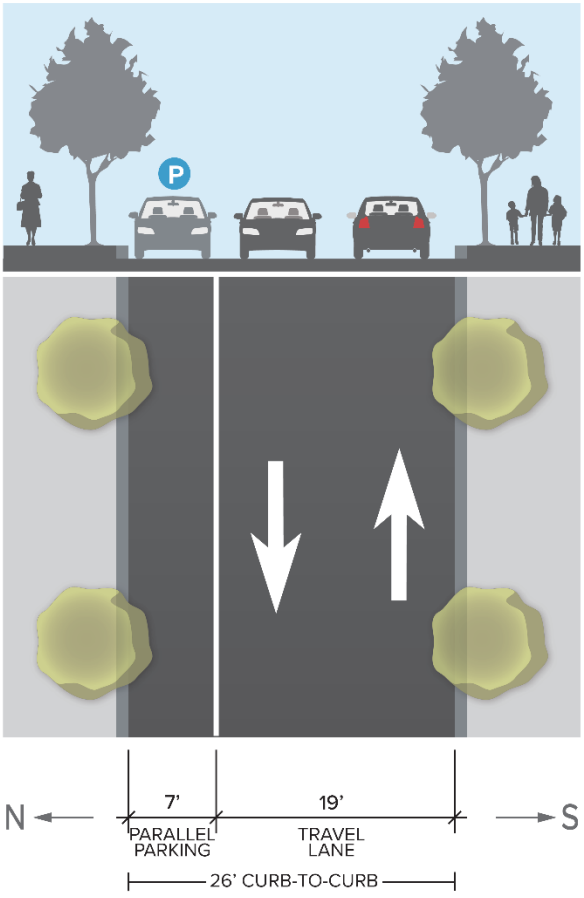
State is a two-way street that carries fewer than 2,500 vehicles a day. It is currently striped with a yellow dashed centerline, with on-street parking permitted on the south curb. Between Warren and Hamilton, the street is regulated as a one-way during Dunbar Magnet School hours to regulate student pickup flow. The condition of centerline striping and wide one-way flow encourages higher speeds. Ample room exists to restripe as two lanes in both directions, with a curbside parking lane: a slow-flow condition ideal for a school zone.

View east between Warren and Cedar

East of Hamilton, on-street parking alternates between the north curb and the south curb. In this area, neighbors concerned about speeding requested a bike lane be added, creating a slower flow. This change will require on-street parking to flip sides on select blocks.

Restripe as follows:

- **Scott to Warren**: restripe as a 19-foot two-way travelway (no centerline) and a 7-foot parking lane on the north curb.
- **Warren to MLK**: remove one-way signs to always permit two-way travel, and restripe as a 19-foot two-way travelway (no centerline) and a 7-foot parking lane on the south curb (which can be used for student pickup and dropoff).

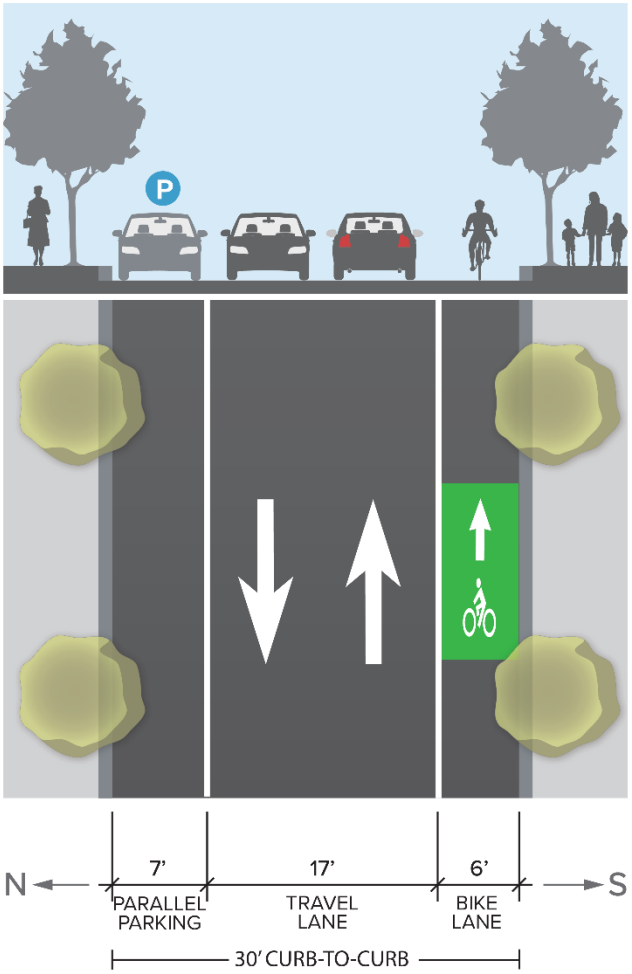


State from Scott to MLK (Except by Dunbar School where parking would flip to south side)

State Street (continued)

- **MLK to Royal**: restripe as a 17-foot two-way travelway (no centerline) and a 7-foot parking lane on the north curb and a 6-foot eastbound bike lane on the south curb.

View east between Joachim and Conception

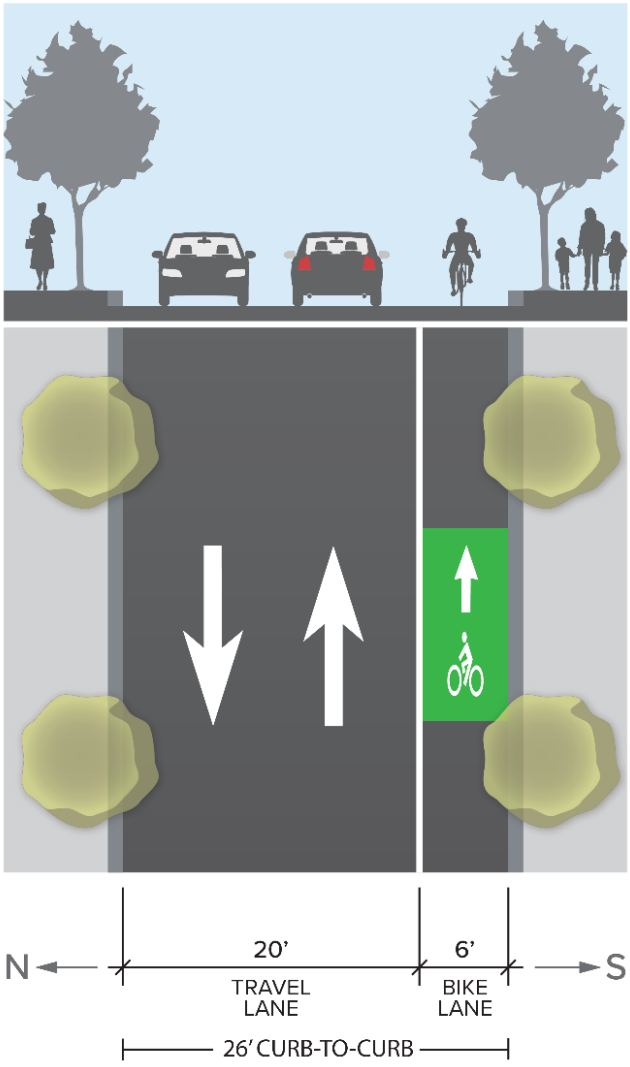


State from MLK to Royal

State Street (continued)

- **Royal to Water**: restripe as a 20-foot two-way travelway (no centerline) and a 6-foot eastbound bike lane on the south curb.

View east between Royal and Water



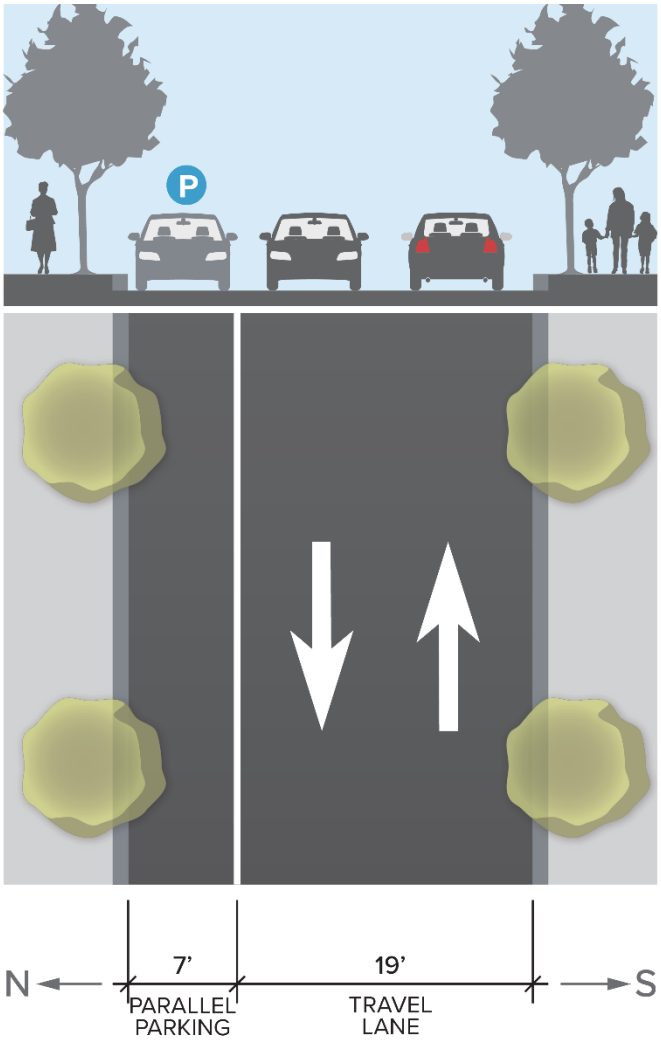
State from Royal to Water

St. Anthony Street

St. Anthony is currently a one-way west-bound street that carries fewer than 2,500 vehicles a day. It is striped with an overly wide driving lane and on-street parking permitted on one side (on the south curb east of MLK and on the north curb west of MLK). This wide one-way flow encourages speeding. To calm traffic and improve downtown circulation, St. Anthony should be reverted back to two-way travel, as follows:

- **Broad to Royal:** restripe as a 19-foot two-way travelway (no centerline*) flanked by a 7-foot parking lane on the north curb.

View west between Joachim and Jackson



St. Anthony from Broad to Royal

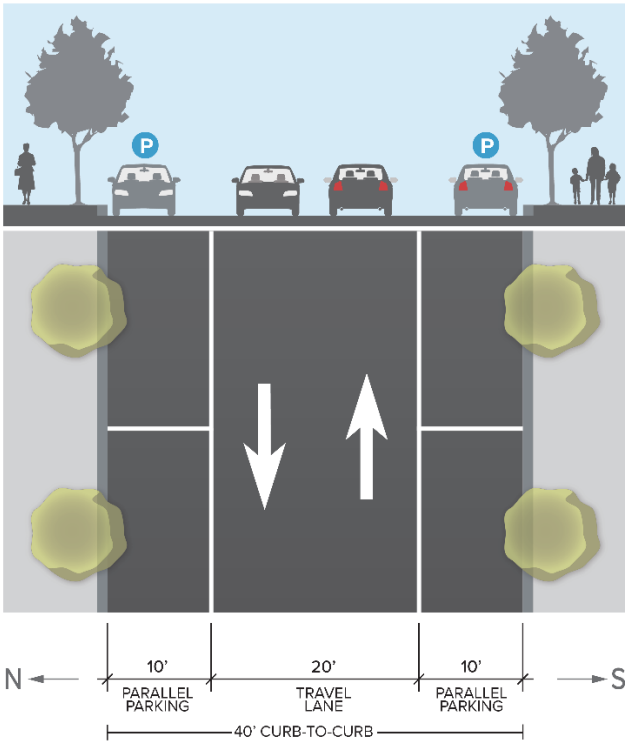
St. Anthony Street (continued)

- **Royal to Water:** restripe as a 20-foot two-way travelway (no centerline*) flanked by 10-foot parking lanes on both curbs.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Royal, St. Joseph, and Washington Streets, and an all-way stop introduced at Joachim as well.

*Because the reintroduction of two-way travel will cause some confusion at first, it is advisable to stripe a 25-foot-long centerline at each intersection approach.

View west between Royal and Water



St. Anthony from Royal to Water

St. Louis Street

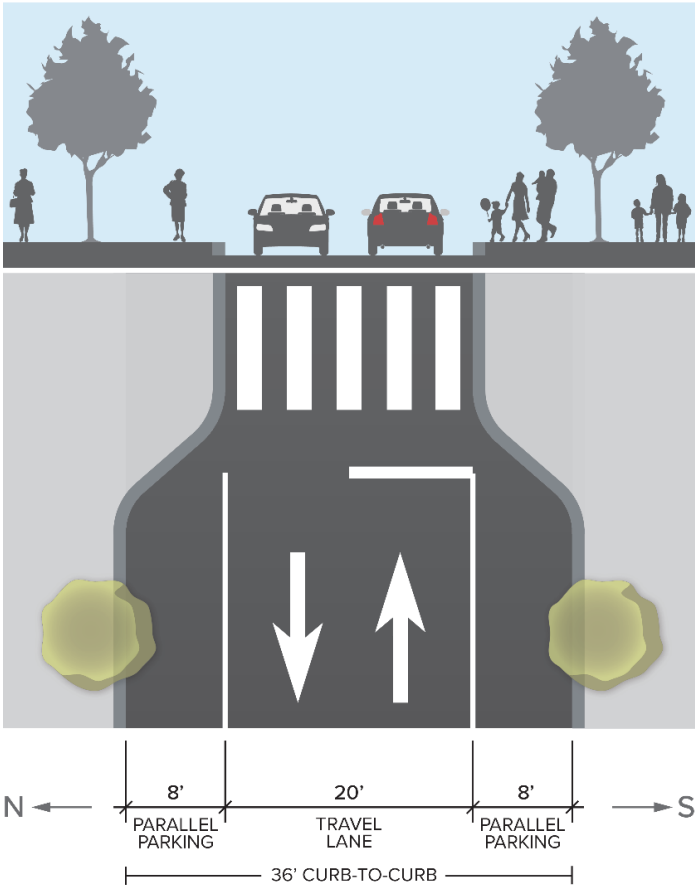
St. Louis is a two-way street that carries fewer than 5,000 vehicles a day (and fewer than 2,500 west of Claiborne). The street is currently receiving a streetscape rebuild, adding missing sidewalks and street trees and formalizing on-street parking. These plans include a 40-foot width with curb extensions narrowing the roadway to 24 feet at intersections. They also isolate street trees to curb extensions surrounding parking spaces, which limits both the number of trees and the amount of parking.

These plans should be modified to a 36-foot standard mid-block, with 8-foot parking lanes flanking a 20-foot travelway. To further limit speeding, centerlines are not recommended but, if included, they should not be painted for more than 25 feet on each intersection approach.

Rather than being isolated to curb extensions, street trees should be located regularly along the sidewalk edge for the entirety of each block.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Royal, St. Joseph, Conception, Jackson, and Washington Streets.

View west between Hamilton and Lawrence



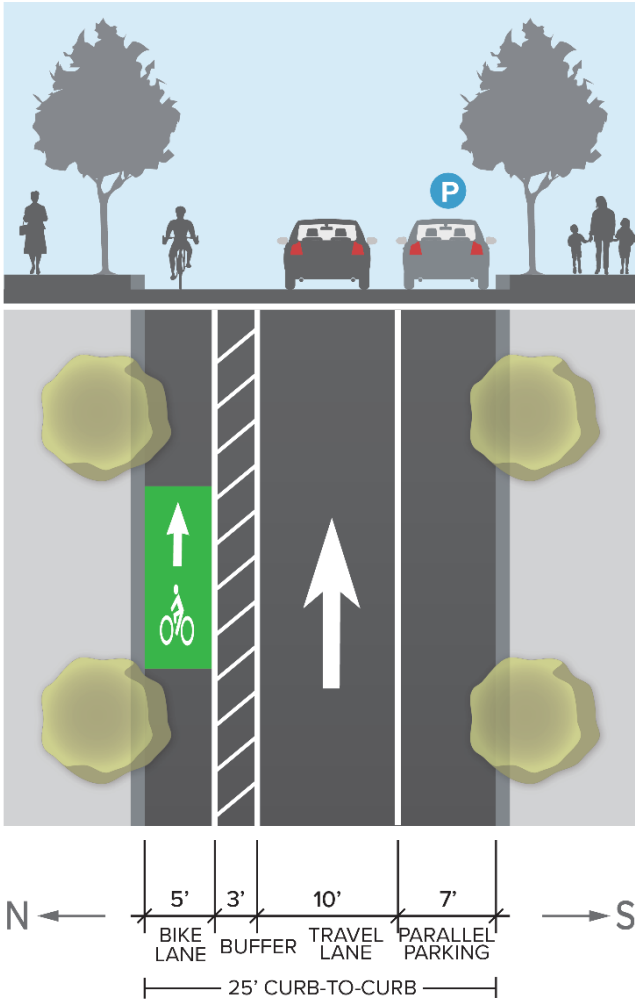
St. Louis, Typical

St. Michael Street

St. Michael is a one-way eastbound street that carries fewer than 2,500 vehicles a day in an overly wide 18-foot driving lane, typically flanked by one side of on-street parking. The street should be restriped to include a 5-foot bike lane with 3-foot buffer on the north curb and a consistently-striped 7-foot parking lane on the south curb. This solution will require flipping the current location of parking on some blocks.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Royal and St. Joseph Streets.

View east between Joachim and Conception



St. Michael, Typical

St. Francis Street

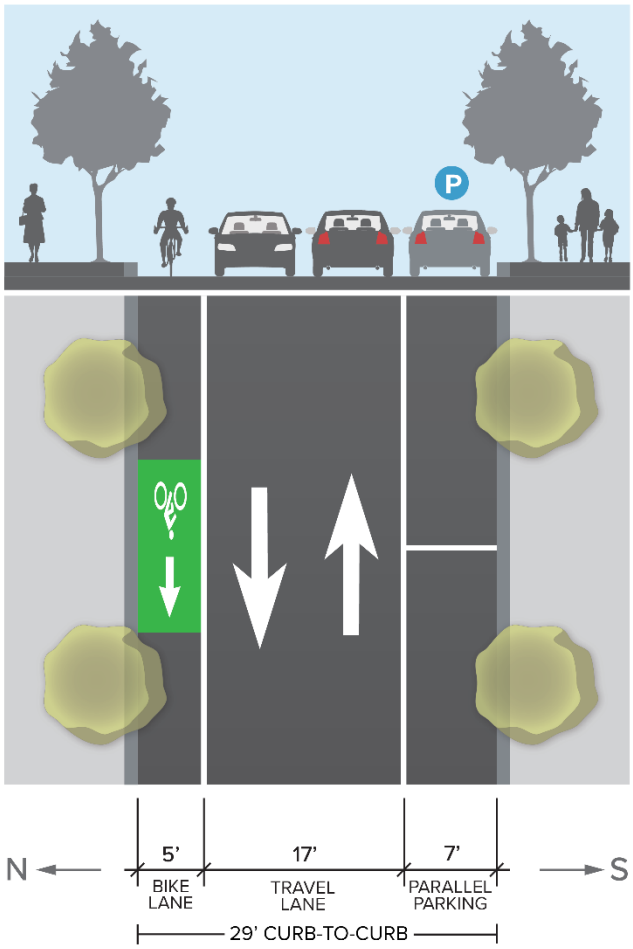
St. Francis carries fewer than 5,000 vehicles a day (and fewer than 2,500 west of Lawrence). With exception of Broad to Bayou being one-way westbound, St. Francis is a two-way street. In order to calm traffic, and to create a one-way cycling pair with St. Michael Street, the street should receive a westbound bike lane, resulting in a slow-flow configuration in most locations.

The resulting 17-foot two-way travelway is narrow, but the adjacent bike lane will provide ample elbow-room for large vehicles to pass each other, albeit it at slower speeds, as appropriate to a downtown.

Restripe as follows:

- **Broad to Bayou**: restripe from one-way to two-way with a 17-foot two-way travelway (no centerline*) flanked by a 5-foot westbound bike lane on the north curb and a 7-foot parking lane on the south curb.
- **Bayou to Conception**: restripe as a 17-foot two-way travelway (no centerline) flanked by a 5-foot westbound bike lane on the north curb and a 7-foot parking lane on the south curb.

View west between Joachim and Jackson



St. Francis, Broad to Conception and St. Joseph to Water

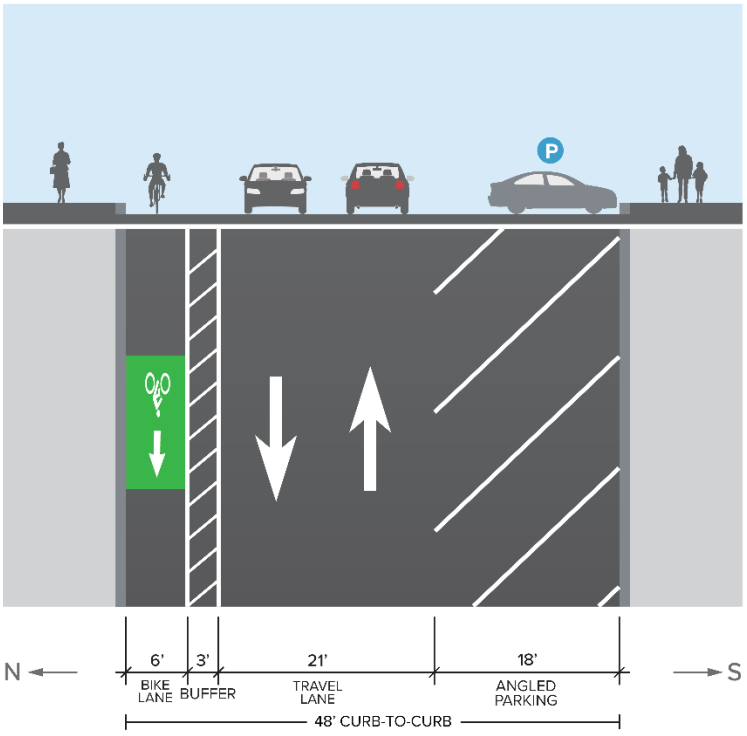
St. Francis Street (continued)

- **Conception to St. Joseph**: restripe this wider section as a 21-foot two-way travelway (no centerline) flanked by 3-foot buffer and a 6-foot bike lane on the north curb, retaining angled parking on south curb.
- **St. Joseph to Water**: restripe as a 17-foot two-way travelway (no centerline) flanked by a 5-foot westbound bike lane on the north curb and a 7-foot parking lane on the south curb.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Royal, St. Joseph, Conception, Washington, and Scott Streets, and Spring Hill Avenue. To further calm traffic, the intersections with Jackson, Cedar, Warren, and Dearborn should receive all-way stop signs.

*Because the reintroduction of two-way travel on its westernmost block will cause some confusion at first, it is advisable to stripe a 25-foot-long centerline at each intersection approach.

View east between Conception and St. Joseph



St. Francis, Conception to St. Joseph

Dauphin Street

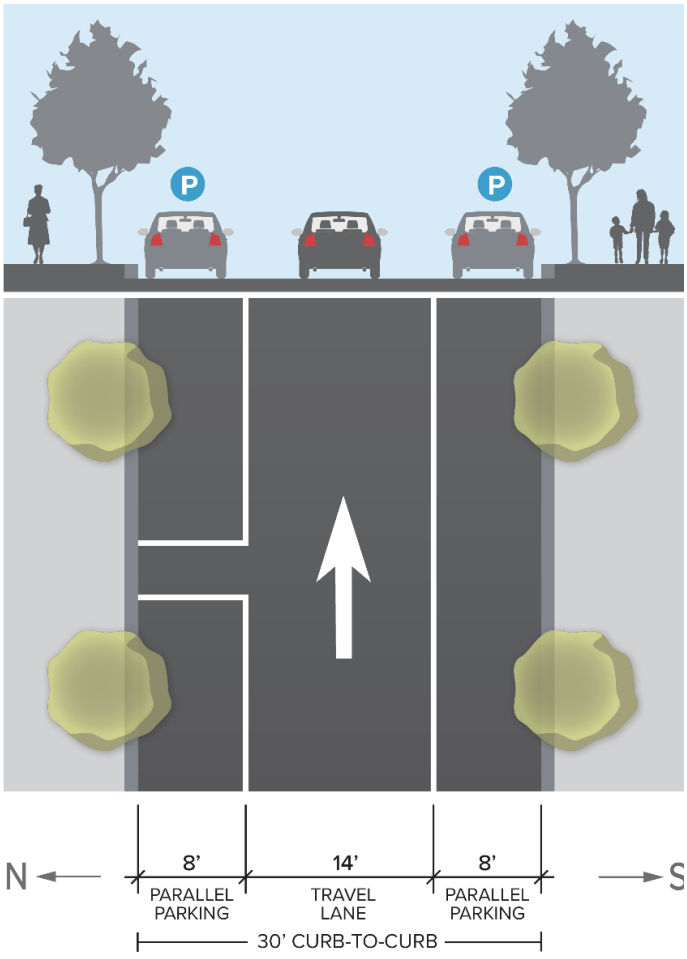
Dauphin is a one-way eastbound street that carries fewer than 5,000 vehicles a day. From Broad to Claiborne, two lanes of eastbound traffic encourage speeding. The lane demand analysis shows that only one driving lane is needed to service current and projected traffic. Many complaints are heard about dangerous driving along this street's two-lane section, and crash analysis shows a higher rate of collisions there. In this stretch, the extra driving lane is transformed overnight into a second parking lane, which calms traffic. To support both safety and business vitality, this is a condition we recommend be allowed at all hours of day. As discussed in detail in Section 1.5, parking both sides will significantly improve the safety of Mobile's most important downtown street.

East of Claiborne, the roadway narrows to one driving lane and one parking lane. This segment can be made yet safer by striping a wider parking lane to discourage speeding.

Restripe as follows:

- **Broad to Claiborne**: restripe as a 14-foot driving lane flanked by a 8-foot parking lane on south curb and adding a 8-foot parking lane on north curb (with a 4-foot gap between spaces to deploy fire truck outriggers).

View west between Franklin and Hamilton



Dauphin from Broad to Claiborne

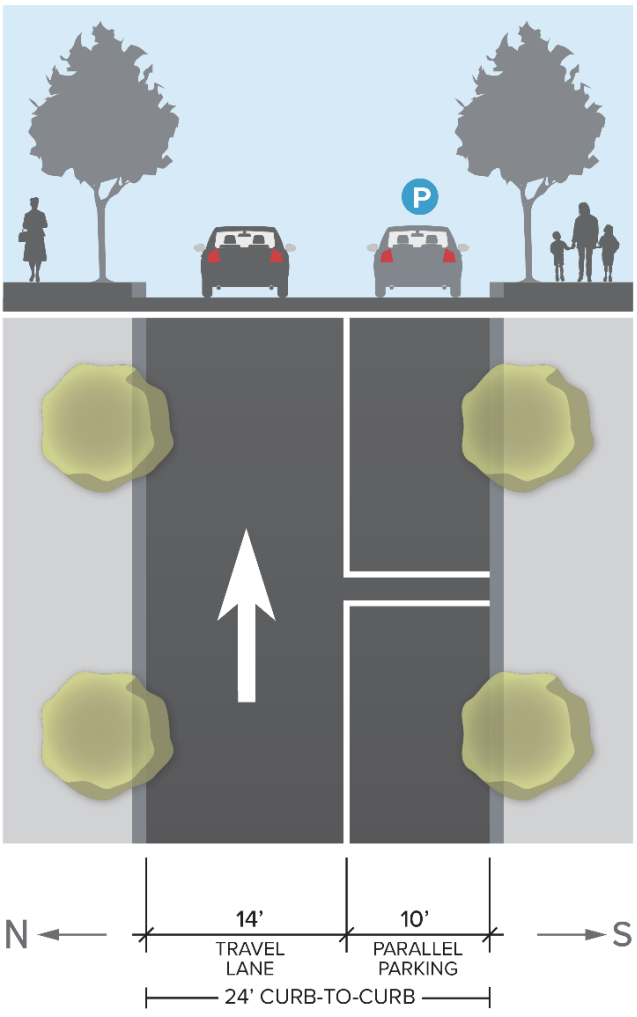
Dauphin Street (continued)

- **Claiborne to Royal**: restripe as a 14-foot travel lane flanked by a 10-foot parking lane on the south curb. (If so required by the Fire Department, place a 3-foot gap between each parking space to facilitate the deployment of outriggers.)
- **Royal to Water**: no changes.

As discussed in Section 1.8, the slip lane at Water Street should be eliminated.

As discussed in Section 1.10 traffic signals should be replaced with all-way stops at all Dauphin St. intersections other than at Broad and Water Streets.

View west between Jackson and Joachim



Dauphin from Claiborne to Royal

Conti Street

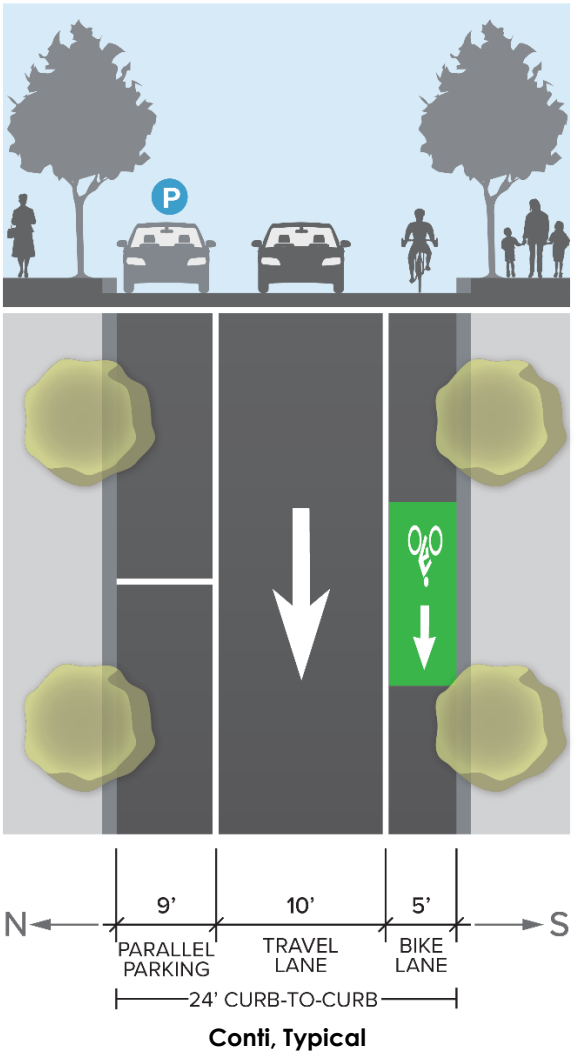
Conti is a one-way westbound street that carries fewer than 2,500 vehicles a day. Along most of its length, it holds a single over-wide driving lane with one flank of parking. West of Jefferson, it has been reverted to two-way travel, with a curb extension just east of Jefferson preventing eastbound vehicles from entering.

Given that Conti is a favored walking and biking corridor as well as a key path between the downtown and the Riverview Plaza Hotel, it should be calmed through the insertion of a bike lane in the excess width on the south curb.

Restripe as follows:

- **Broad to Jefferson**: No change.
- **Jefferson to Bayou**: restripe to match its eastern segments (below), but stamp a westbound green sharrow approaching Jefferson Street, encouraging bicyclists to gradually transition into the driving lane before the intersection.
- **Bayou to Royal**: restripe as a 10-foot driving lane flanked by a 5-foot bike lane on the south curb and a 9-foot parking lane on the north curb.

View east between Warren and Cedar



Conti, Typical

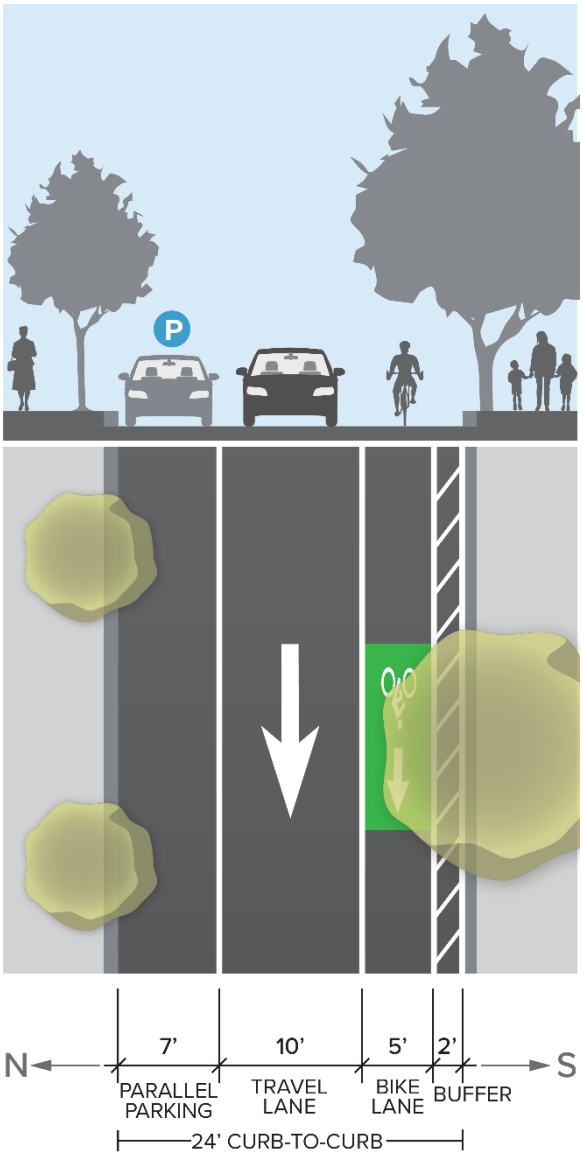
Conti Street (continued)

- **Where an old live oak impinges the roadway between Lawrence and Hamilton**: as it approaches the tree, chamfer lane widths to result in a 10-foot driving lane flanked by a 5-foot bike lane with a 2-foot buffer on the south curb and a 7-foot parking lane on the north curb.

As discussed in Section 1.10, flashing red traffic signals should be replaced by all-way stops at Conception Street and Washington Avenue. To further calm traffic and to accommodate forthcoming school activity, the intersections with Jackson, Lawrence, and Cedar should receive all-way stop signs.

Finally, as noted in Section 1.11, Conti Street should be provided with a crosswalk across Royal Street at its terminus, potentially equipped with a Rectangular Rapid Flashing Beacon (RRFB).

View east between Lawrence and Hamilton



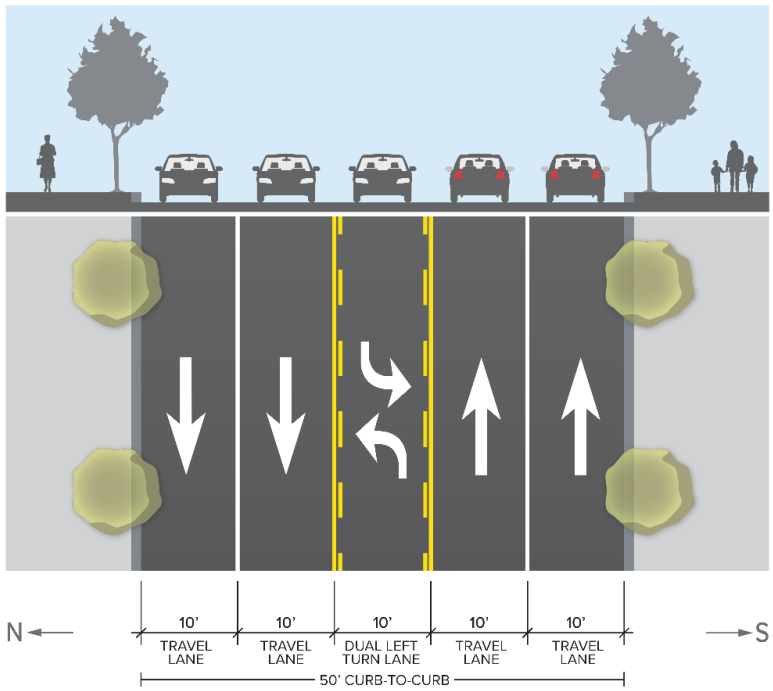
Conti, treatment around oversized live oaks

Government Street

Government is an ALDOT-owned two-way street that carries between 20,000 and 30,000 vehicles a day. After many years of efforts, missing parallel parking has been recently returned, marginally improving the street's safety and business viability. The principal safety problem that remains comes from all of the intersections that lack pedestrian crossings and signals. Pedestrians are tempted to cross at most of them, and often do, unprotected from traffic that does not see them and is traveling too quickly to stop.

View east between Cedar and Lawrence

The solution to this problem is to provide proper crosswalks and pedestrian crossing signals on all four legs of every intersection along Government Street between Water and Broad. Unfortunately, ALDOT's ownership of the street means that installing these facilities is predicted to take many years.



Government, Typical

For that reason, the second-best solution to making downtown's most dangerous street safer is to take advantage of scheduled updates to create a proper crossing at every intersection that already has a signal.

Specifically, at the upcoming traffic light management plan update, the City and ALDOT should program all signals to have Leading Pedestrian Intervals (LPIs). Leading Bicycle Intervals (LBIs) should also be added at the important cycling corridors of Washington, Lawrence, and Claiborne Streets.

Next, during the repaving process slated for 2024, the City should work with ALDOT to add thermoplast continental crosswalks on all legs of all signalized intersections. Several are missing, as described in Section1.11 of this Plan.

Further, the intersection of Government at Conception (the most crash-prone in all of downtown) presents enough of an emergency case to receive a more dramatic safety upgrade, fully described in Section 1.11. Also already discussed, the intersection with Jefferson Street should be rebuilt (or restriped) to a standard urban configuration rather than the highway-style swooping geometry now present.

It must be stressed that Government Street will remain an unnecessarily dangerous corridor until each and every crossing street receives a properly signalized intersection. Until that time, vehicle-pedestrian crashes at Franklin, Hamilton, Warren, Dearborn, Bayou, and Jefferson Streets—all lacking signals—should be expected. One hopes that the desire to save lives will short-circuit the patient process described above and mandate a faster schedule of improvements.

If such a change cannot be made to happen quickly, a stopgap measure would reduce the risk of conflict at these intersections: signs directing pedestrians and cyclists to signalized crossings. Specifically, it would be wise to install the following bold signs at each Government Street crossing, each with an arrow pointing people in the proper direction:

- Franklin Street: "Cross Government Street safely one block east →"
- Hamilton Street: "Cross Government Street safely one block west →"
- Warren Street: "Cross Government Street safely one block east →"
- Dearborn Street: Cross Government Street safely one block west →
- Bayou Street: "Cross Government Street safely one block east →"
- Jefferson Street: "Cross Government Street safely one block west →"

While less than ideal, these signs would seem to be a necessary precaution while Government Street awaits pedestrian-activated signals and crosswalks at these intersections.

Church Street

Church is a two-way street that carries fewer than 2,500 vehicles a day. Lanes wider than 11 feet encourage speeding.

Approaching Claiborne from the west, Church has a block-long center turn lane that serves no purpose, eliminating parking and further causing high speeds.

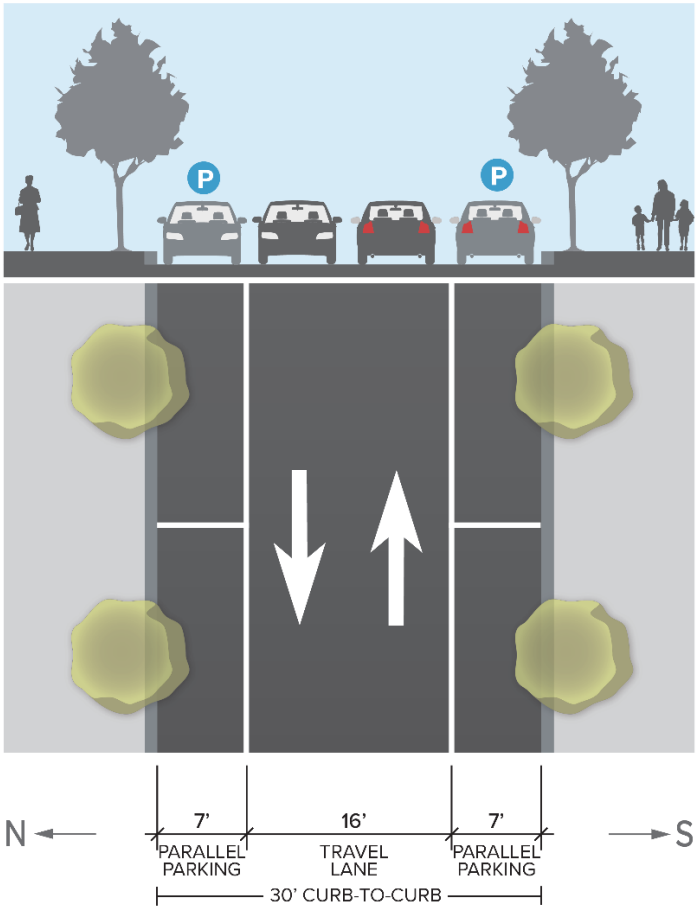
Church Street currently carries the moda! shuttle's westbound trip in its circulation of downtown, a route that many find perplexing. Reassigning the moda! to a street with higher transit demand (such as Government) makes sense for a number of reasons and would allow the north curb to be used for on-street parking in a slow-flow geometry, as appropriate to its light traffic and residential neighborhood character.

As discussed in Section 1.10, the traffic signals should be replaced with an all-way stop at Washington Street. To further calm traffic, the intersections with Joachim, Jackson, and Cedar should receive all-way stop signs.

Restripe as follows:

- **Washington to Claiborne:** restripe as a 16-foot two-way travelway (no centerline) flanked by a 7-foot parking on both curbs.
- **Claiborne to Water**: no changes.

View east between Cedar and Lawrence

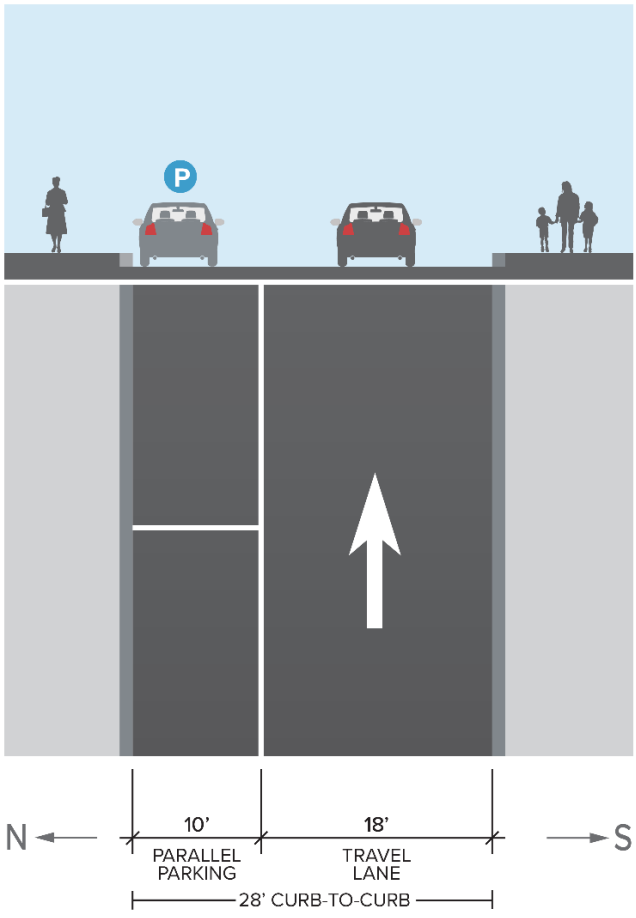


Church from Washington to Claiborne and Joachim to Royal

Civic Center Drive

Civic Center is a one-way unstriped street with low volumes that allows parking on the north curb. The south curb is used for loading, tour bus drop-off and pick-up, and fire lane service during events. It appears safe for all users, so no changes are recommended.

View east between Hamilton and Claiborne



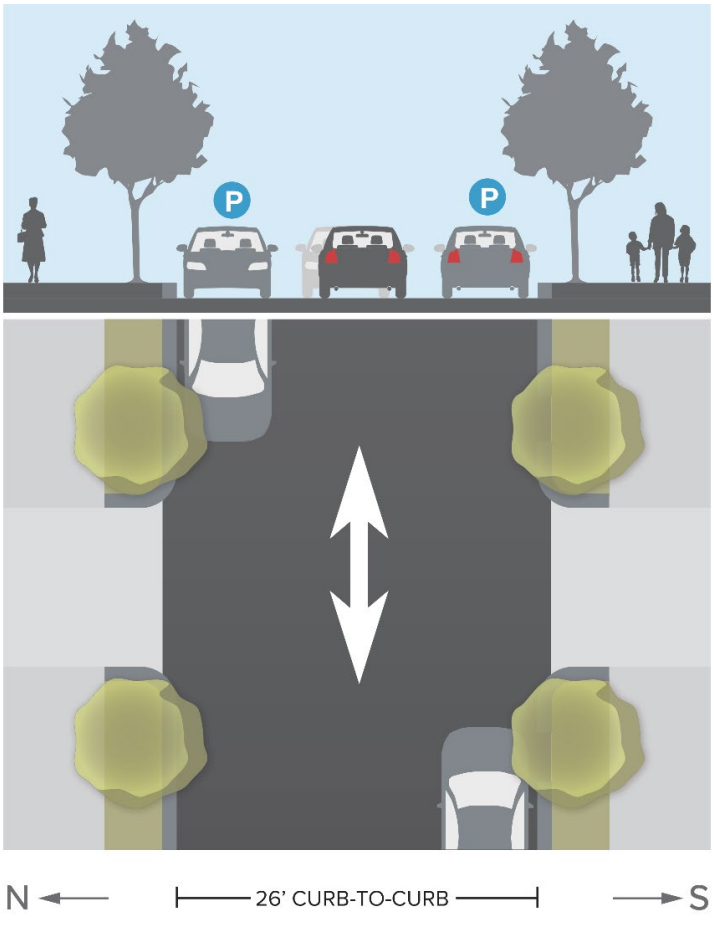
Civic Center from Lawrence to Claiborne

Monroe Street

For most of its length, Monroe is a 26-foot-wide two-way unstriped street with low volumes and scattered parking on both sides. This results in a traditional yield-flow configuration, where a narrow clear zone in the center of the roadway safely handles light traffic in both directions. It is a model that should be understood as appropriate for a large number of Mobile's quiet residential streets.

To further calm traffic, the intersections with Cedar Street and Washington Avenue should receive all-way stop signs.

View east between Washington and Dearborn



Monroe from Jefferson to Lawrence

Monroe Street (continued)

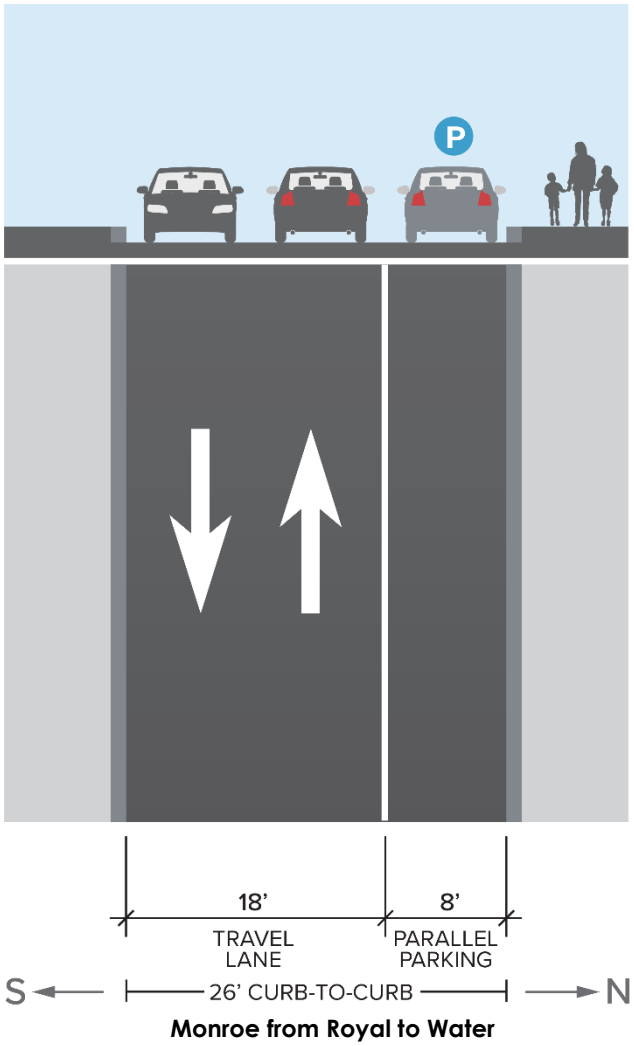
In its eastern segment, Monroe runs from St. Emanuel to Royal with parking on one side in a safe configuration. East of Royal Street, however, Monroe contains two over-wide 13-foot driving lanes. Here it should be restriped to calm traffic and enhance this segment's role as a gateway between downtown and riverfront amenities.

Restripe as follows:

- **Royal to Water**: restripe as a 19-foot two-way travelway (no centerline) flanked by a 8-foot parking lane on the north curb.

More information on this design can be found in Section 1.8.

View west between Water and Royal

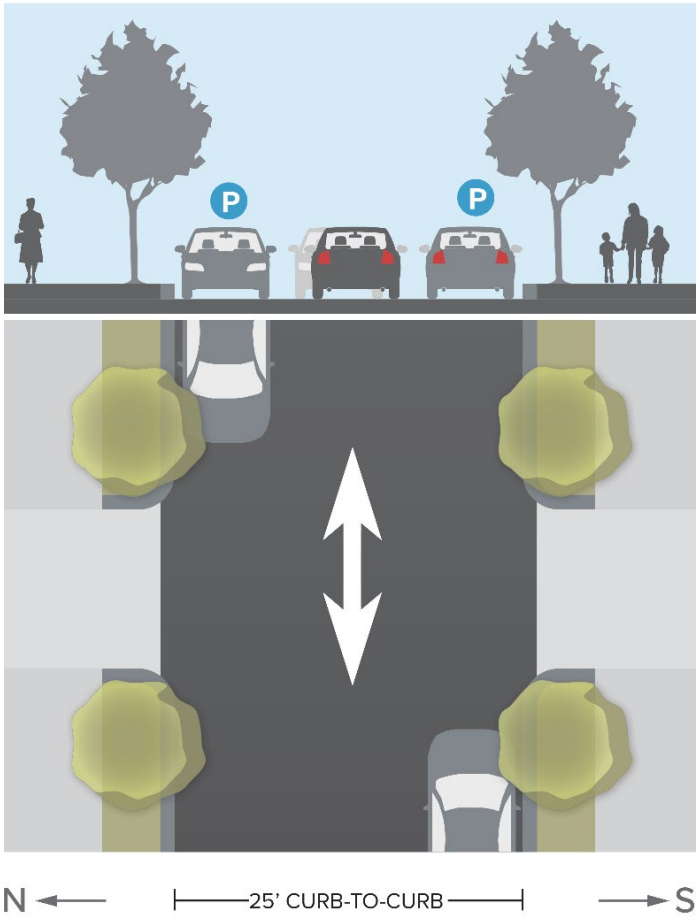


Monroe from Royal to Water

Eslava Street

Eslava is a 25-foot-wide two-way unstriped street with low volumes and scattered parking on both sides. This results in a traditional yield-flow configuration, where a narrow clear zone in the center of the roadway safely handles light traffic in both directions. It is a model that should be understood as appropriate for a large number of Mobile's quiet residential streets.

View east between Warren and Cedar



Eslava from Dearborn to Lawrence

Canal Street

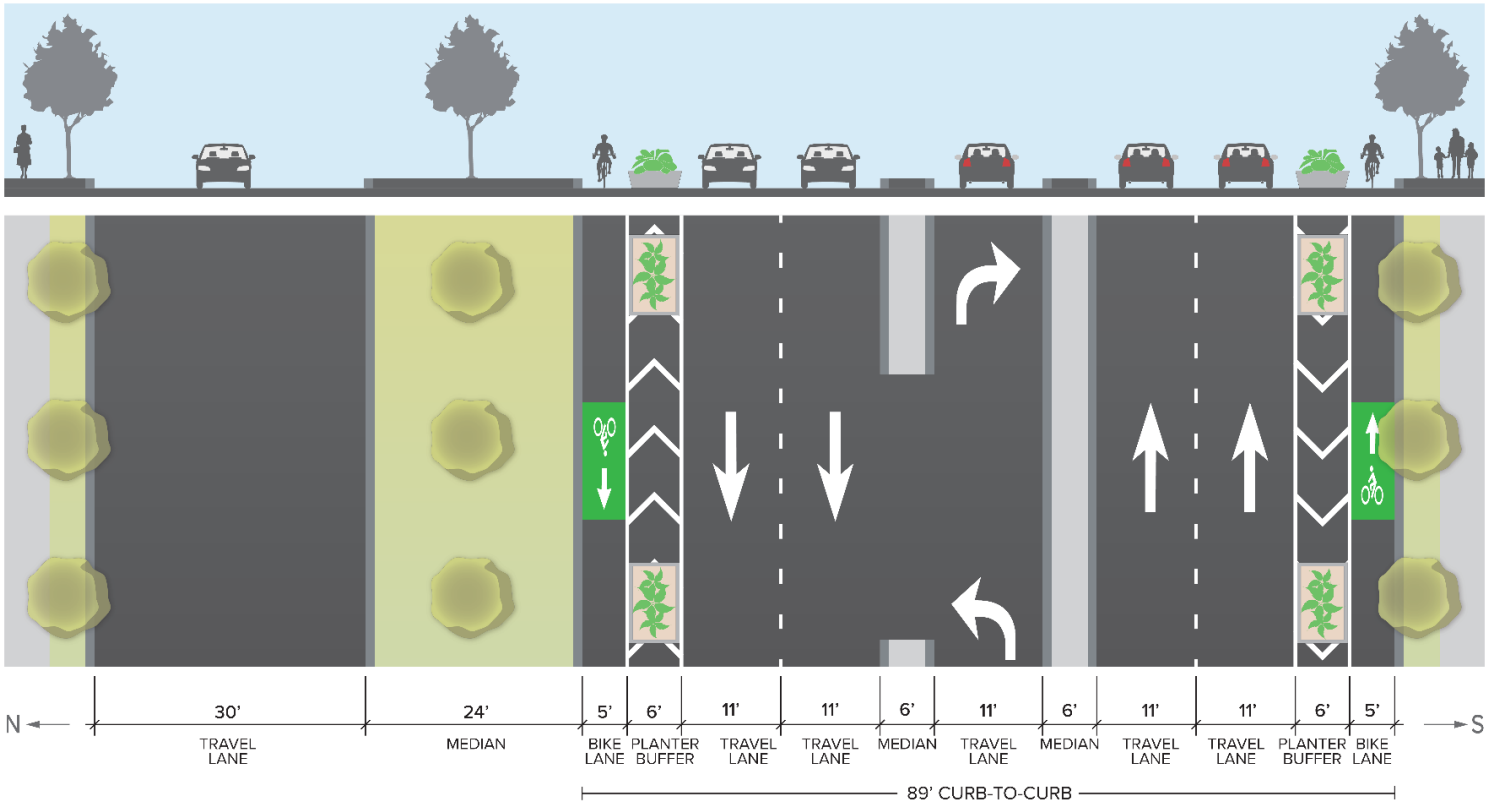
As already described in the Interlude (*The Promise of Canal Street*), Canal is a two-way street that carries fewer than 5,000 vehicles a day - yet the street was built as a 7-lane highway to receive traffic that never came. It has recently received buffered bike lanes on both curbs. Unprotected from what is now a 5-lane highway, these are not safe.

View west between Claiborne and Lawrence

Additionally, a carriageway/frontage road runs along the north curb, separated from the westbound travelway by a planted median. This slower segment is not in need of change.

To make its bicycle facilities safe, planter boxes should be added as vertical protection in the buffers between the driving lanes and the bike lanes.

In the long-term, Canal Street is worthy of a radical rebuild, as described in the Interlude.



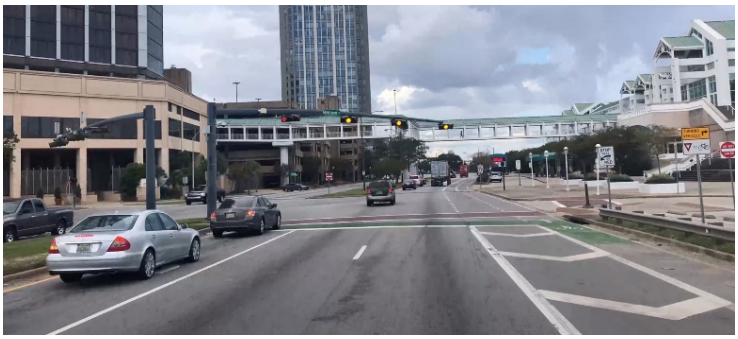
Canal, Typical

2 North-South Streets from East to West

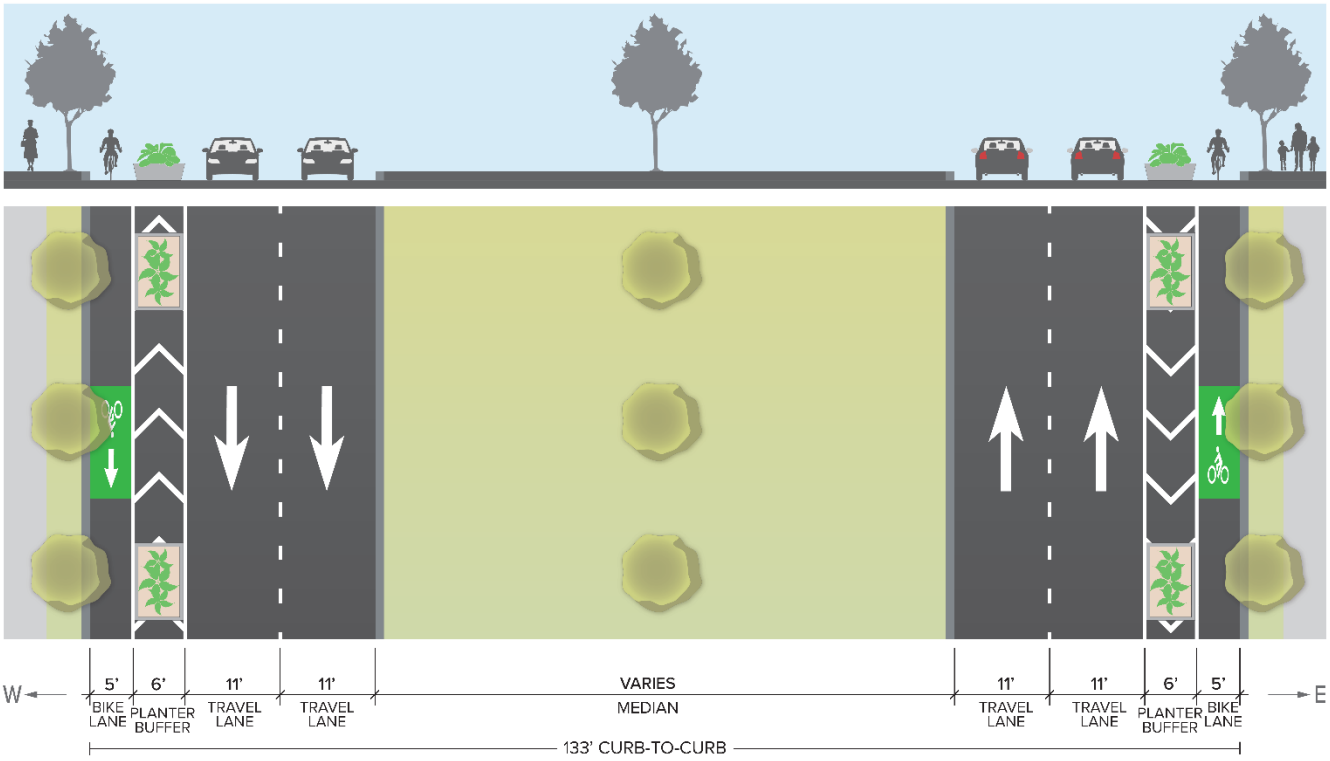
Water Street

Water carries more than 10,000 vehicles a day throughout, and as many as 30,000 near Government Street where it meets highway interchanges. In this stretch, new buffered bicycle lanes have seen little use due to their lack of physical protection from multiple lanes of high-speed traffic. Planter boxes should be added to the buffer to create the safer outcome that was imagined in the original plan for these lanes.

South of Church, each of Water Street's frontage roads carries fewer than 5,000 vehicles a day, and an excess travel lane should be converted to a bike lane in order to complete the Henry Aaron Loop, as discussed in Section 1.8.



View north between Church and Government



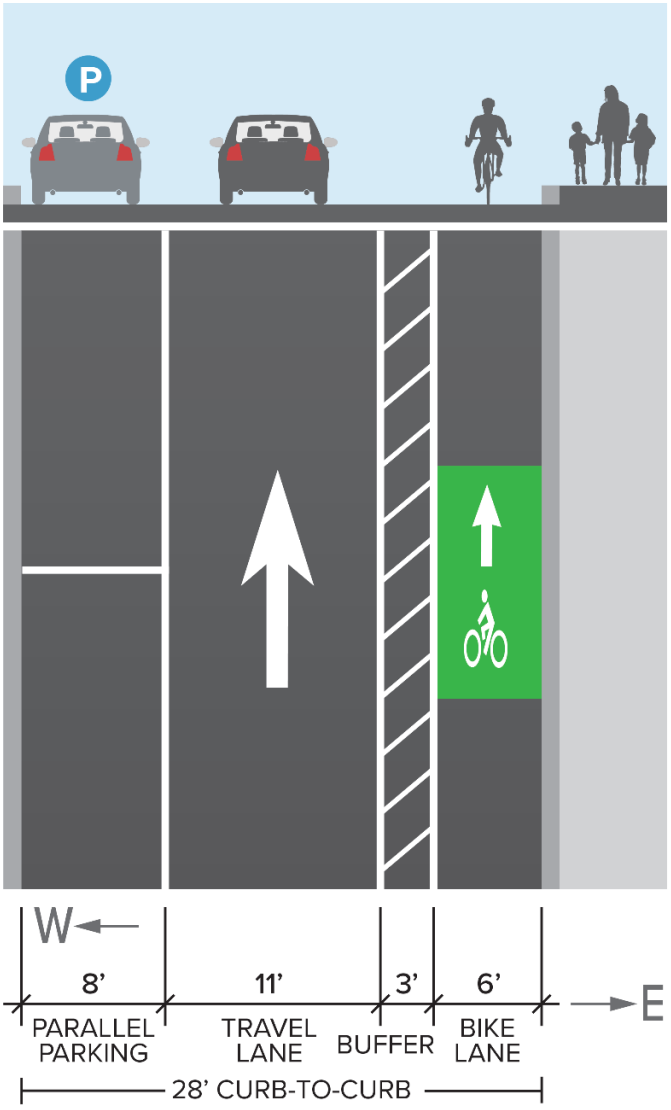
Water, Typical

Water Street (continued)

Restripe as follows:

- **Church to Eslava (Southbound), Monroe to Church (Northbound)**: restripe each frontage road as an 11-foot driving lane flanked by an 8-foot parking lane on the west curb and a 3-foot buffer and 6-foot bike lane on the east curb.

View north between Monroe and Church

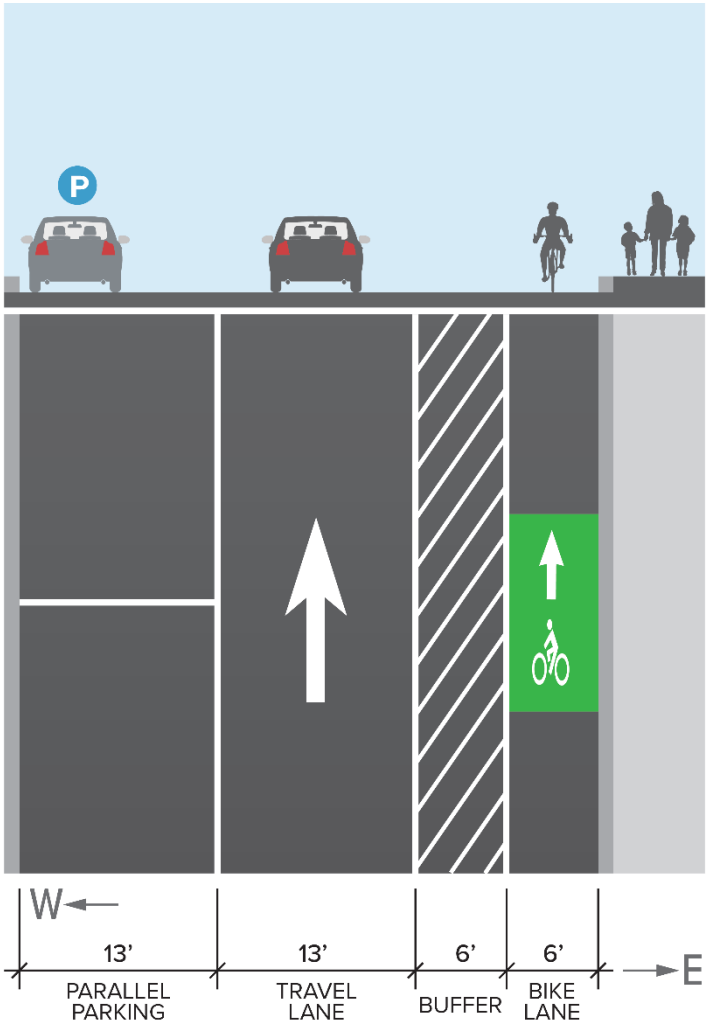


Water northbound from Monroe to Church and southbound from Church to Eslava

Water Street (continued)

- **Monroe to Eslava (Northbound)**: restripe this wider segment as a 13-foot driving lane flanked by a 13-foot parallel parking lane on the west curb and a 6-foot buffer and 6-foot bike lane on the east curb.
- **South of Eslava**: Here, Water Street's two frontage roads merge into a two-way facility with an extra lane in each direction (that eventually becomes Canal after it underpasses the highway). The two outer lanes should be converted to buffered bike lanes with vertical planters for protection. (Note: the northbound segment may require a wider 10-foot buffer between the travel lane and the bike lane to accommodate occasional queuing for the cruise terminal.)

View north between Claiborne and Monroe



Water from Monroe to Eslava

Royal Street

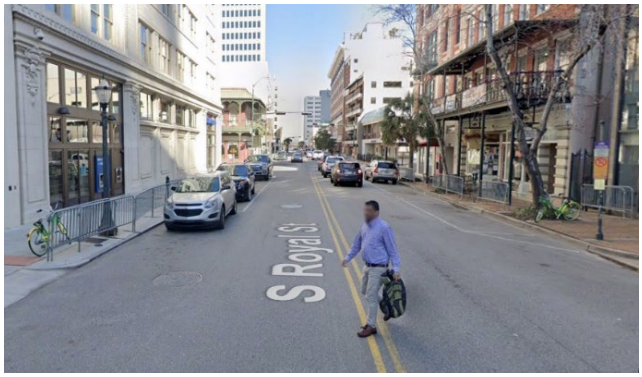
Royal is a two-way street that carries fewer than 5,000 vehicles a day (and fewer than 2,500 north of St. Francis). South of Dauphin Street, a 38 foot travelway holds two 11-foot driving lanes flanked by two parking lanes.

North of Dauphin, one flank of parking is eliminated in order to provide a continuous center left-turn lane that is not warranted by traffic volumes and invites speeding.

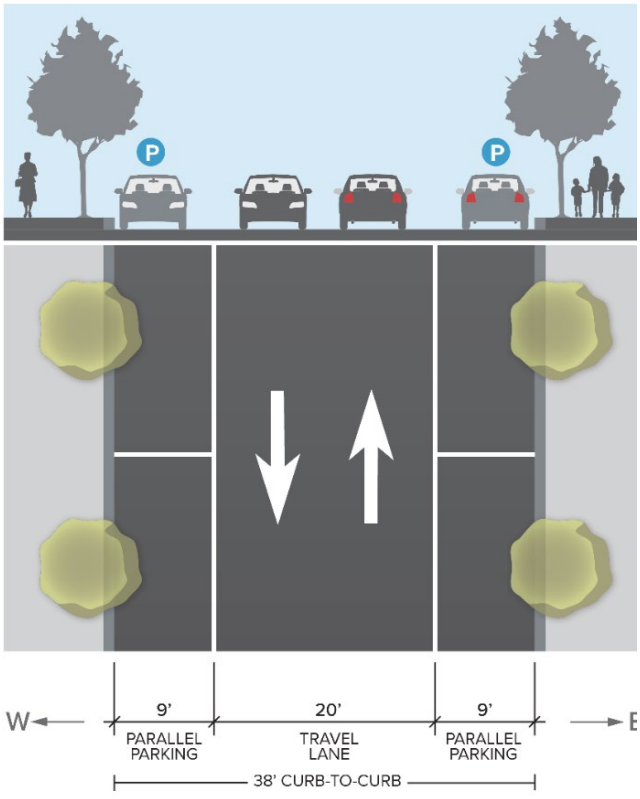
The southern segment can be made safer by widening the parking lanes so that the driving lanes meet the 10-foot standard and eliminating the centerline. The northern segment should be restriped to match, without a left-turn lane.

From Government to Church Street, Royal contains an east flank of parallel parking and a west flank of angle parking that is oddly ten feet too deep. If the sidewalk is ever rebuilt, this condition can be corrected with a moved curb, but it does not currently pose a hazard.

South of here, in Fort Condé Village, Royal Street becomes brick. This material looks nicest without striping, and the texture helps slow speeds. However, there is a consistent condition where parking restrictions on one or both sides of the street result in over-wide lanes that encourage speeding. Halfway between Church and Theater, the roadway expands to 36 feet, yet parking remains disallowed on the west curb, and should be permitted. South of Monroe, parking should be allowed on one curb of this 27-foot-wide roadway.



View north between Dauphin and Conti



Royal from Congress to Government

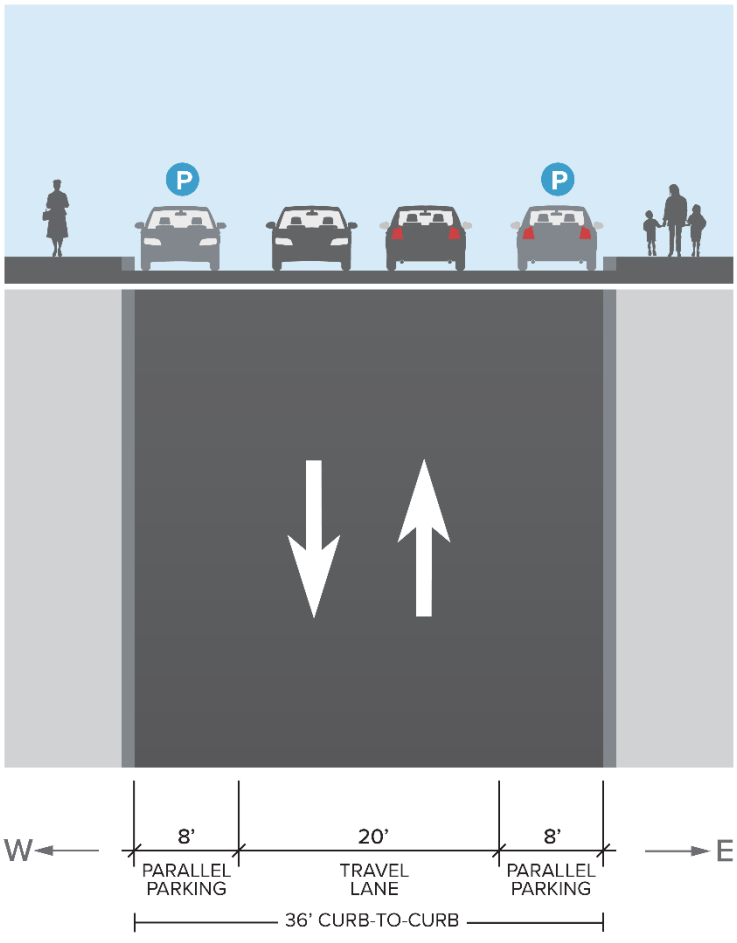
As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Anthony, St. Louis, St. Michael, and St. Francis Streets. As noted in Section 1.11, Conti Street should be provided with a crosswalk across Royal Street at its terminus, potentially equipped with a Rectangular Rapid Flashing Beacon (RRFB).

Royal Street (continued)

Restripe as follows:

- **Congress to Government**: restripe as a 20-foot travelway (no centerline) flanked by a 9-foot parking lane on both curbs. (Note: parking lane can be used for loading on the blocks with hotels.)
- **From midway between Church and Theater to Monroe**: Allow parking on both curbs.
- **Monroe to cul de sac**: Allow parking on west curb.

View north between Theatre and Monroe



Royal from Theatre to Monroe

St. Joseph Street

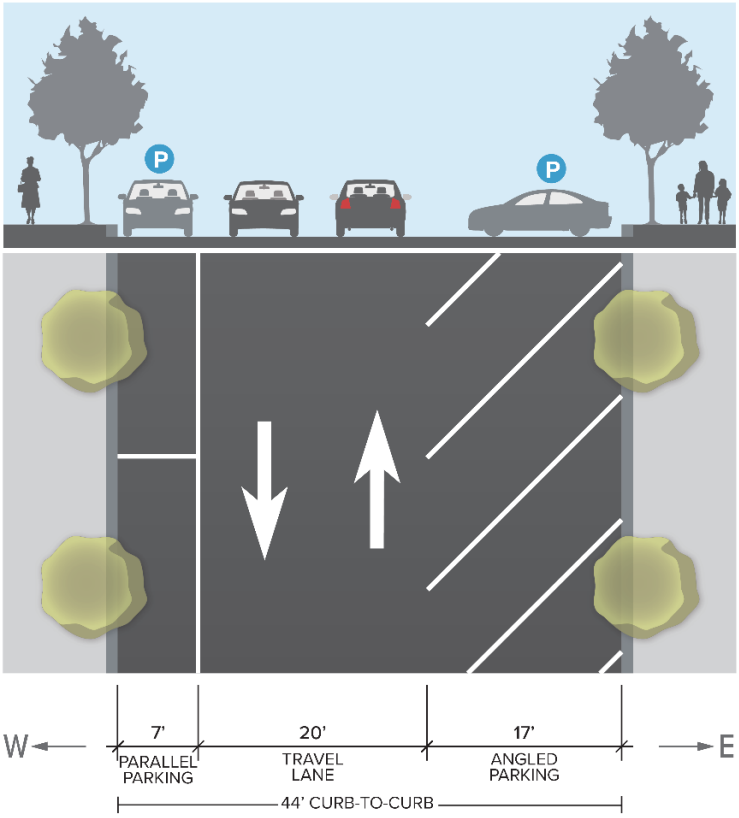
St. Joseph is a one-way southbound street that carries fewer than 2,500 vehicles a day in two 15-foot-wide driving lanes that invite high speeds. The City is completing plans to convert this street to two-way travel and to convert signals to all-way stops, but the driving lanes remain dangerously wide; ample room exists to convert one curb from parallel to angle parking. Given the parking limitations imposed by the Courthouses to the west, this angle parking should go on the east curb, so that any no-parking zones impact parallel parking only.

View south between St. Anthony and St. Louis

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Anthony, St. Louis, St. Michael, St. Francis, Dauphin, and Conti Streets. To further calm traffic, the intersections with Congress and State Streets should receive all-way stop signs.

Restripe as follows:

- **Water to Dauphin**: restripe as a 20-foot travelway (no centerline*) flanked by a 7-foot parking lane on the west curb and a 17-foot, 45-degree angled parking lane on the east curb.



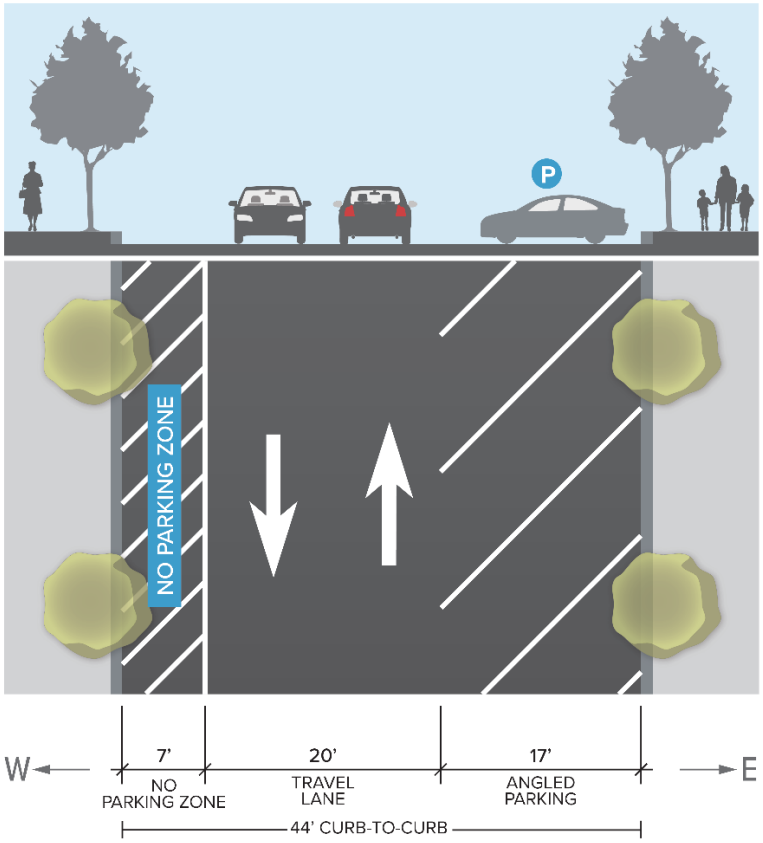
St. Joseph, Typical

St. Joseph Street (continued)

- **By the Courthouse**: stripe the 7-foot parking lane as a No Parking zone. This location should be favored for the placement of a bike corral or future bike-share station.

*Because the reintroduction of two-way travel will cause some confusion at first, it is advisable to stripe a 25-foot-long centerline at each intersection approach.

View north, by the Courthouse

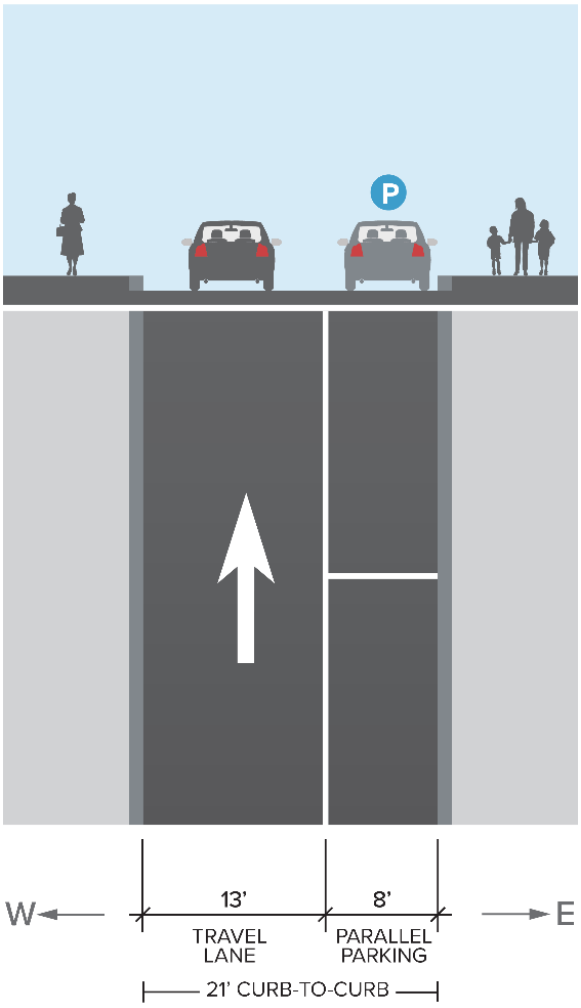


St. Joseph, No Parking Zone by the Courthouse

St. Emanuel Street

St. Emanuel is a one-way northbound street that carries fewer than 2,500 vehicles a day without much speeding. There have been discussions of changing its direction, but no compelling case has been made for doing so, and all the impacts of this reversal cannot be predicted. No changes are recommended.

View north between Conti and Government



St. Emanuel from Dauphin to Government

Conception Street

Conception is a one-way northbound street that carries fewer than 2,500 vehicles a day. In the heart of downtown, its overly wide driving lane encourages speeding. Ample room exists to stripe a northbound bike lane on the west curb to create a pair with a southbound lane on Joachim.

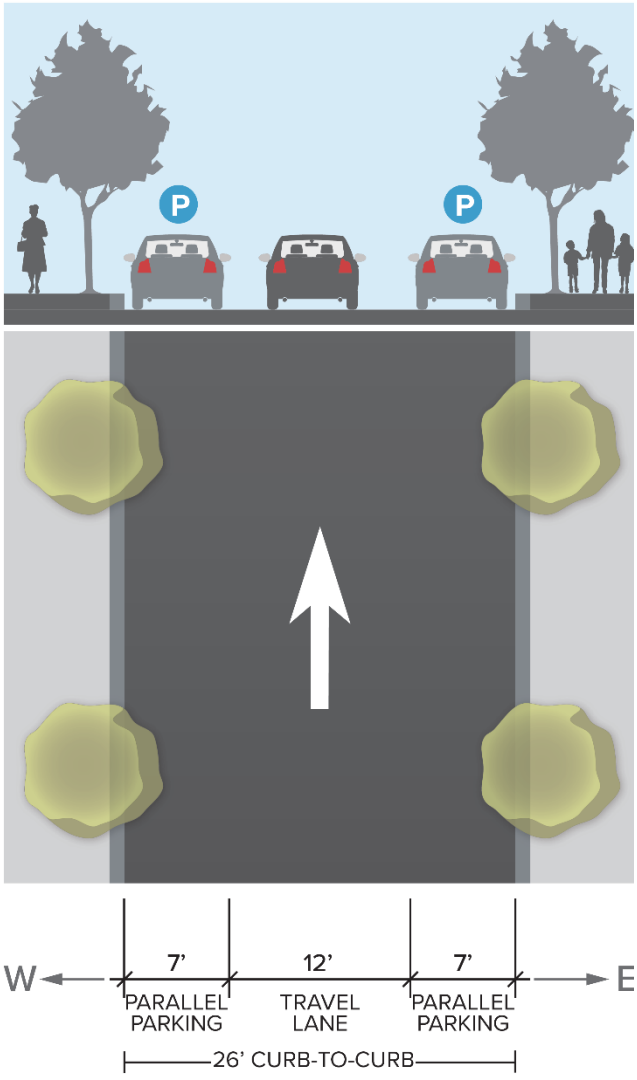
North of Congress Street, neighbors asked that Conception's only two-way block be converted to one-way northbound due to congestion in this heavily parked area. While such a change is not usually advisable, here it is recommended because the lack of gaps between parked cars does not allow adequate two-way flow.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Louis, St. Francis, Dauphin, and Conti Streets.

Restripe as follows:

- **Adams to Congress**: restripe as a 12-foot driving lane flanked by 7-foot parking lanes on each curb.
- **Congress to State**: no change.

View north between State and St. Anthony

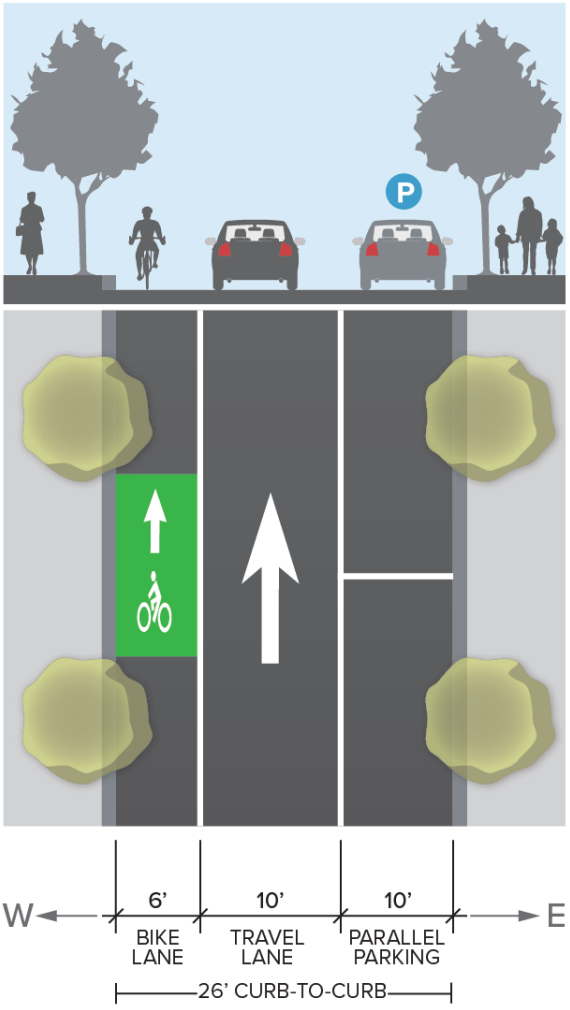


Conception from Adams to Congress

Conception Street (continued)

- **State to St. Francis**: restripe as a 10-foot driving lane flanked by a 6-foot bike lane on the west curb and a 10-foot parking lane on the east curb. This change requires that 17 west-flank parking spaces (and 6 parking meters) between St. Louis to St. Francis switch to the east flank of the street.
- **St. Francis to Dauphin**: stripe a 6-foot bike lane on the west curb (bending around the bumpout at the intersection of Dauphin) and retain angled parking on east curb. This change results in the loss of 4 parking spaces on the west curb.
- **Dauphin to Conti**: restripe as a 10-foot driving lane flanked by a 6-foot bike lane on the west curb and an 8-foot parking lane on the east curb.
- **Conti to Government**: no change.

View north between St. Francis and St. Michael



Conception from State to St. Francis and Dauphin to Conti

Joachim Street

Joachim is a one-way southbound street that carries fewer than 2,500 vehicles a day. In the heart of downtown, its overly wide driving lane encourages speeding. Ample room exists to stripe a southbound bike lane on the east curb to create a pair with a northbound bike lane on Conception.

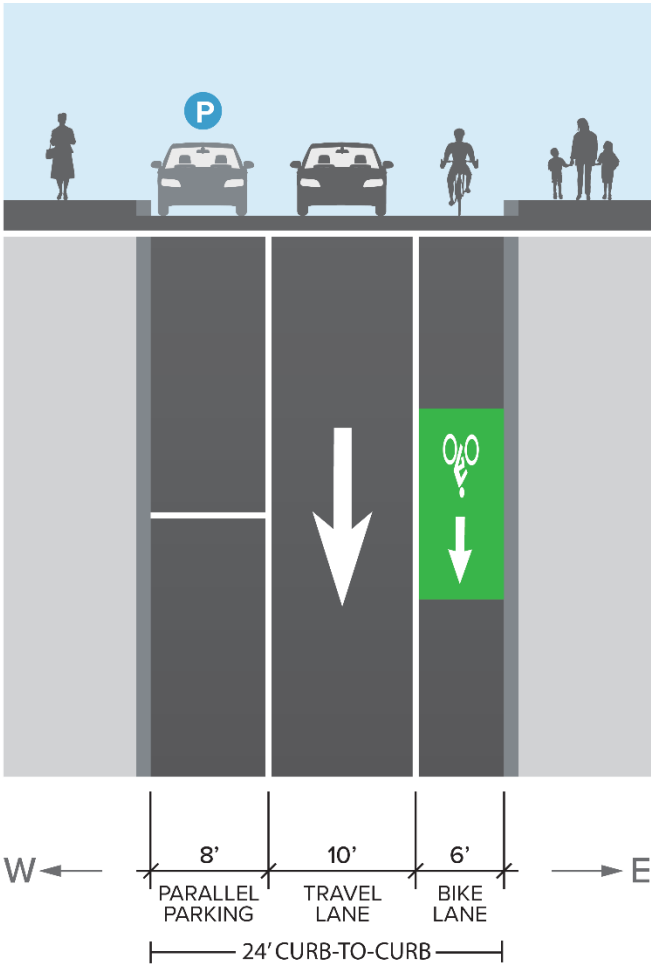
South of Government Street, Joachim does not invite high speeds and thus does not warrant change.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Dauphin Street.

Restripe as follows:

- **Adams to State**: no change.
- **State to Conti**: restripe as a 10-foot driving lane flanked by an 8-foot parking lane on the west curb and a 6-foot bike lane on the east curb.
- **Conti to Government**: no change.

View south between St. Francis and Dauphin



Joachim from State to Conti

Jackson Street

Jackson is a one-way northbound street that carries fewer than 2,500 vehicles a day. Its 30-foot roadway is wide enough to hold parking on both sides, but some blocks contain only one flank of parking, resulting in an overly wide driving lane that encourages higher speeds.

Parking spaces should be striped on both curbs wherever possible. This can be best accomplished in tandem with eliminating redundant and unnecessary curb cuts, as discussed in Section 1.9.

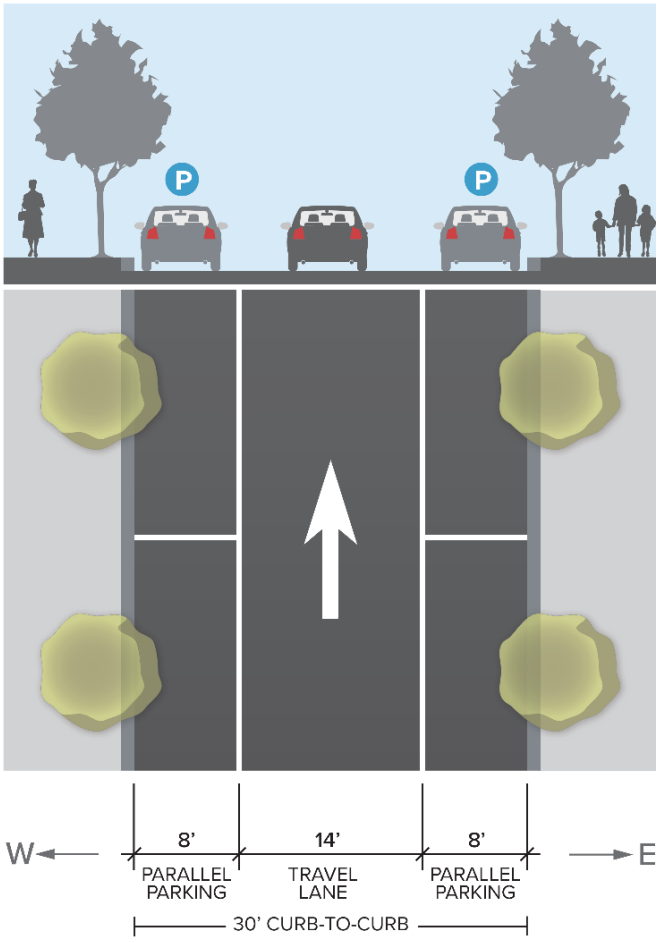
Between Government and Church Streets, Jackson contains two northbound lanes against a west flank of parking. This configuration would seem to be justified by traffic queues approaching both the Jackson Street Garage and Government Street.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Louis and Dauphin Streets.

Restripe as follows:

- **Adams to Congress**: no change.
- **Congress to Government**: restripe as a 14-foot driving lane flanked by an 8-foot parking lane on both curbs.
- **Government to Civic Center**: no change.

View south between St. Louis and St. Michael



Jackson from Congress to Government

Claiborne Street

Claiborne is a one-way southbound street that carries fewer than 2,500 vehicles a day. In the heart of downtown, its overly wide driving lane encourages speeding. Ample room exists to stripe a southbound bike lane on the west curb to create a pair with a northbound bike lane on Franklin.

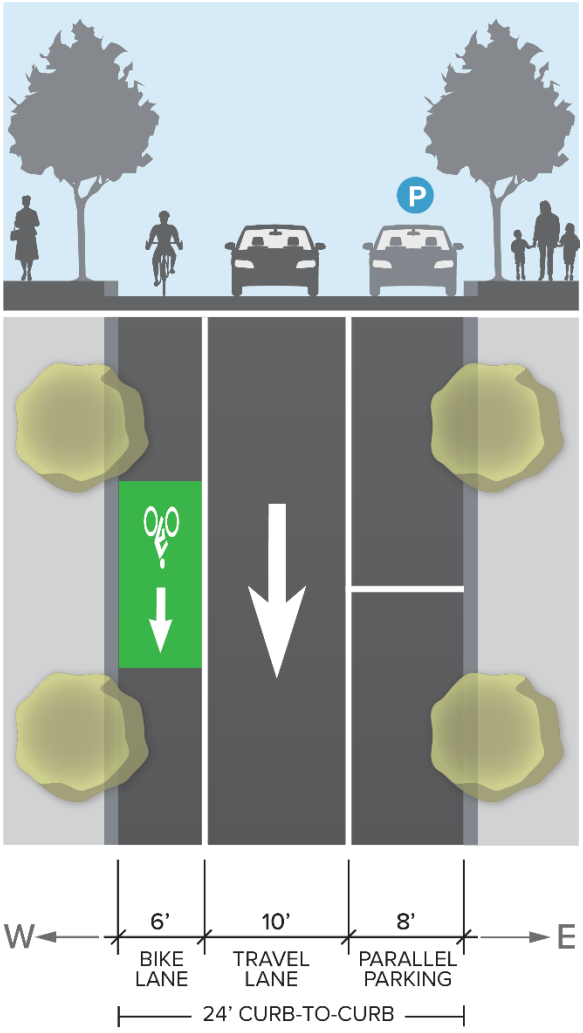
South of Government, Claiborne expands to two and then three very wide lanes, inviting highway speeds through the downtown. Here, street plays a function in servicing driver queuing to the Civic Center and southbound commutes. Still, ample room exists to stripe a protected bike facility and on-street parking that would calm speeds along this overly-wide stretch. These changes are important, as Claiborne, together with Lawrence, provides the only opportunity for a north-south cycling facility through the heart of downtown.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Dauphin Street.

Restripe as follows:

- **Adams to Congress**: no change.
- **Congress to Government**: restripe as a 10-foot driving lane flanked by a 6-foot southbound bike lane on the west curb and a 8-foot parking lane on the east curb.

View north between Dauphin and St Francis

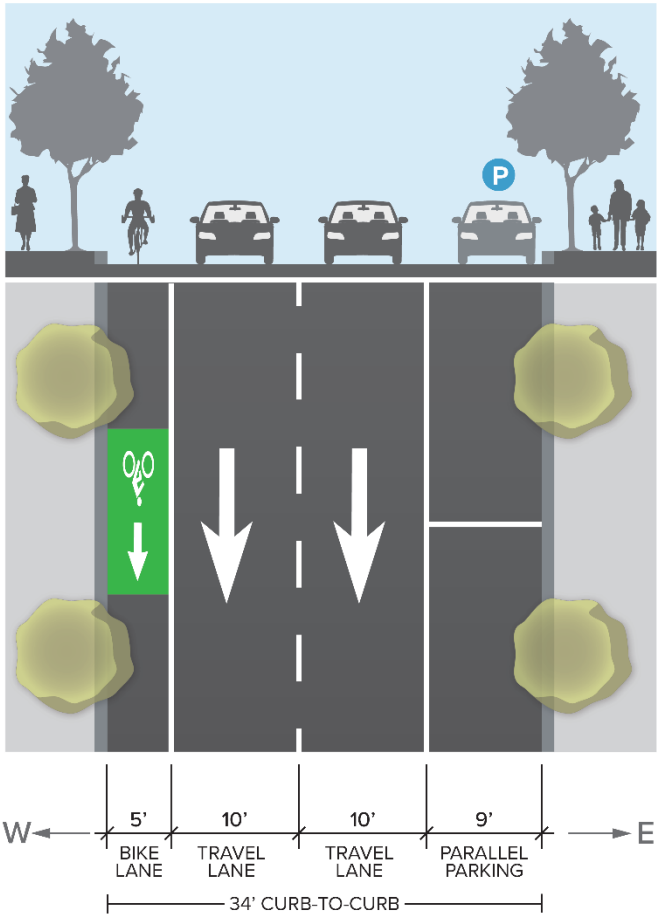


Claiborne from Congress to Government

Claiborne Street (continued)

- **Government to Church**: restripe as two 10-foot driving lanes flanked by a 5-foot southbound bike lane on the west curb and a 9-foot parking lane on the east curb.

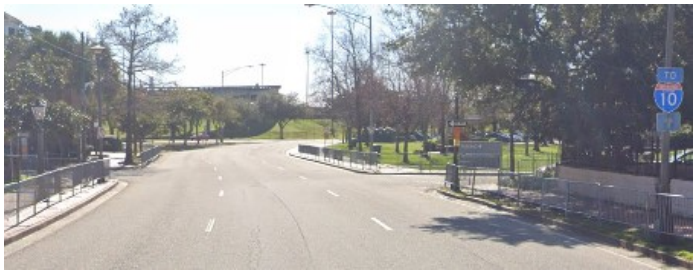
View south between Government and Church



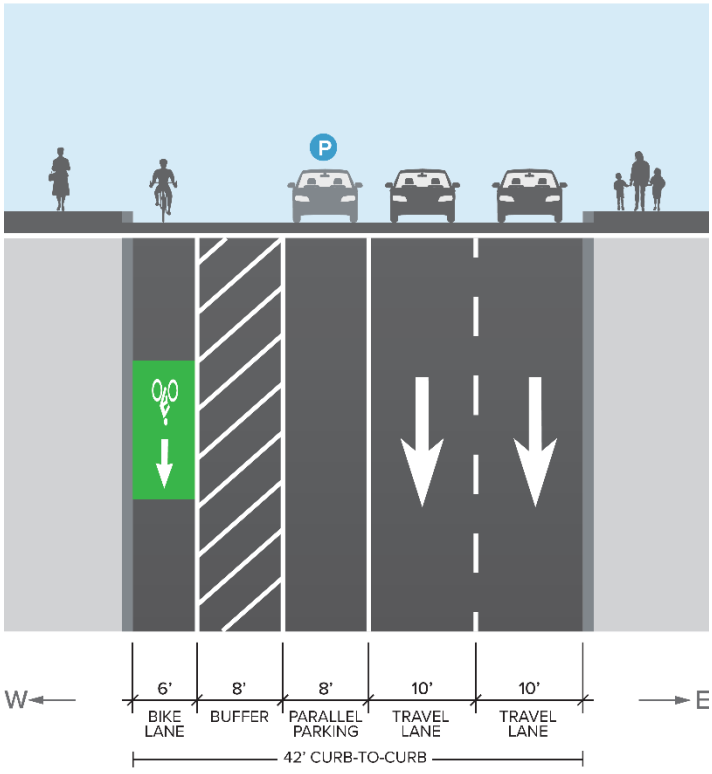
Claiborne from Government to Church

Claiborne Street (continued)

- **Church to the merge junction**: restripe as two 10-foot driving lanes flanked by an 8-foot parking lane, 8-foot buffer, and 6-foot bike lane on the west curb.



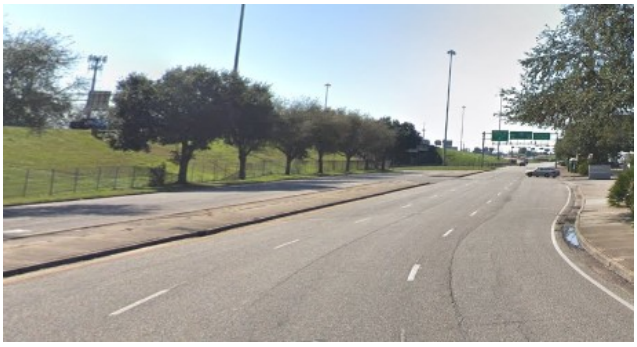
View south between Church and Civic Center



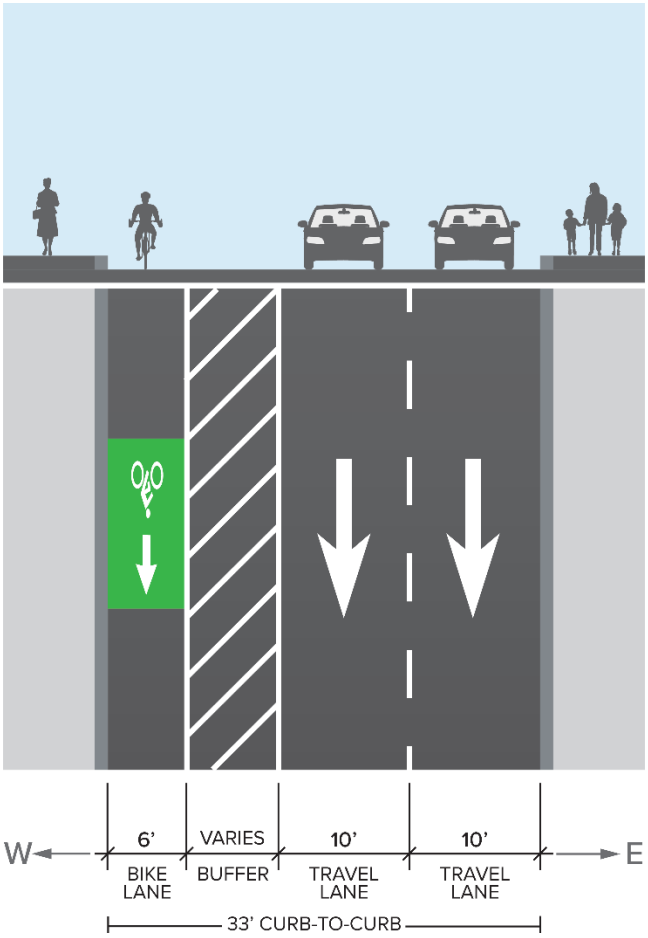
Claiborne from Church to Joachim

Claiborne Street (continued)

- **Merge junction to highway signs**: restripe as two 10-foot driving lanes flanked by a buffer of varying width and 6-foot bike lane on the west curb.



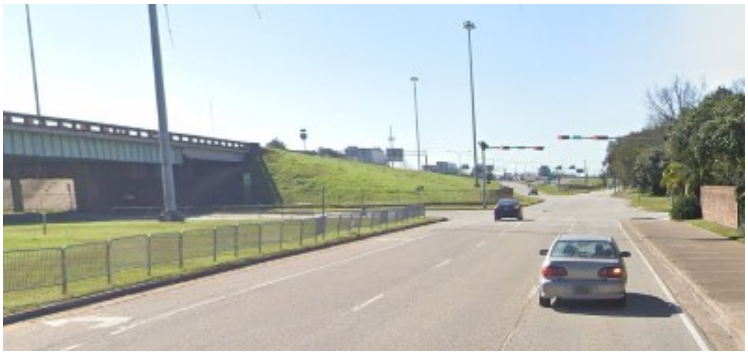
View south between Joachim and Canal



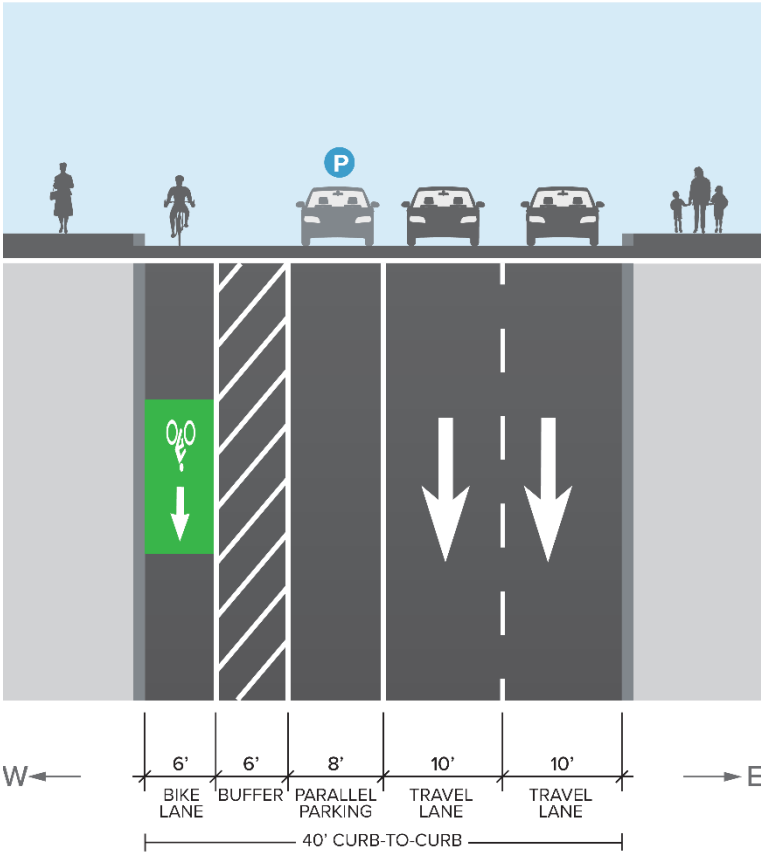
Claiborne from Joachim to Highway Signs

Claiborne Street (continued)

- **Highway Signs to Canal**: restripe as two 10-foot driving lanes flanked by an 8-foot parking lane, 6-foot buffer, and 6-foot bike lane on the west curb.



View south, near Canal



Claiborne from Highway Signs to Canal

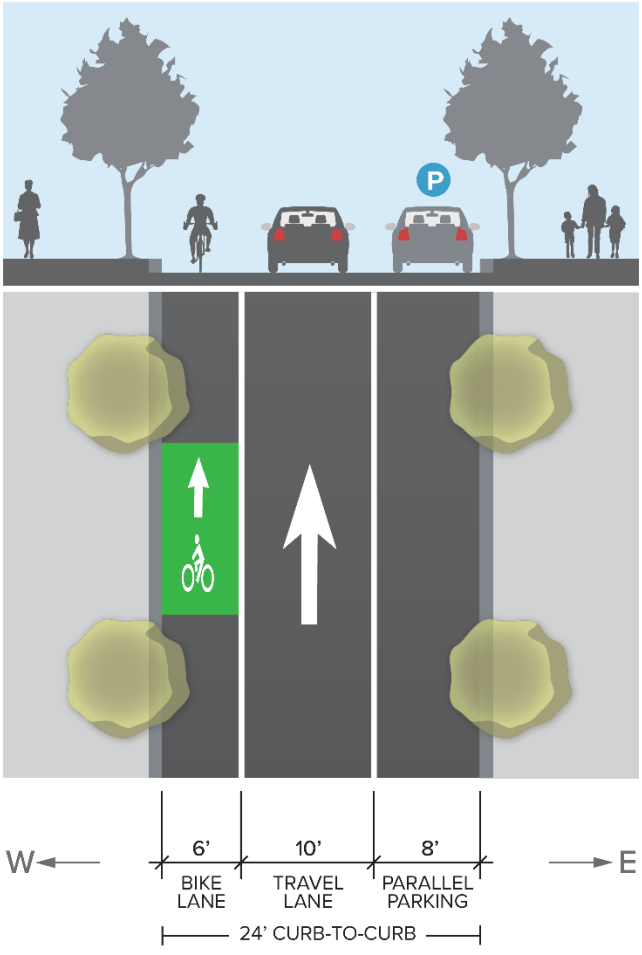
Franklin Street

Franklin is a one-way northbound street that carries fewer than 2,500 vehicles a day. An overly wide driving lane encourages speeding. Ample room exists to stripe a northbound bike lane on the west curb to create a pair with a southbound bike lane on Claiborne.

Restripe as follows:

- **Congress to Conti**: restripe as a 10-foot driving lane flanked by a 6-foot northbound bike lane on the west curb and an 8-foot parking lane on the east curb.
- **Conti to Church**: formalize on-street parking on east curb.

View north between St. Louis and St. Anthony



Franklin from Congress to Conti

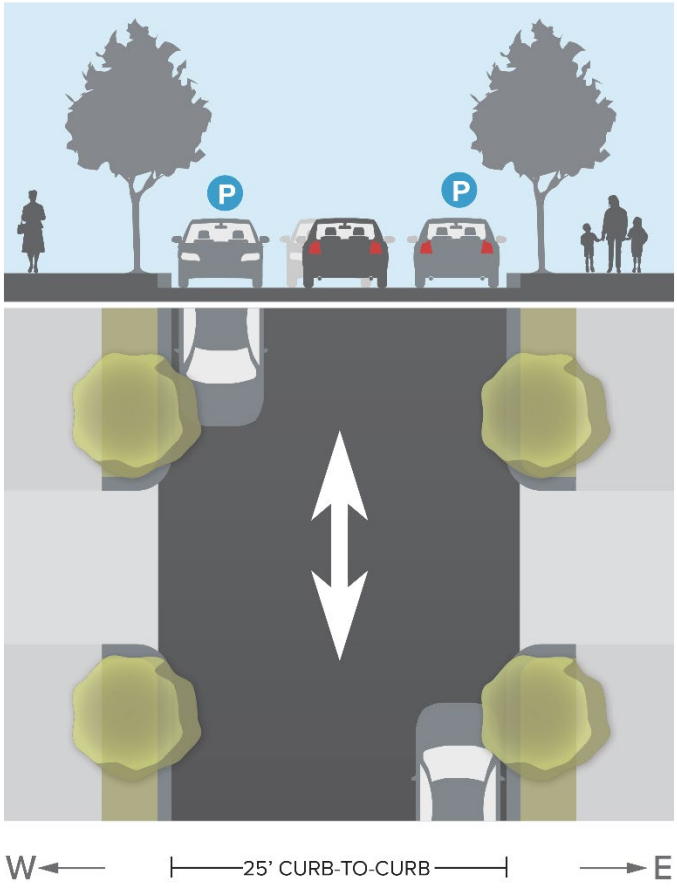
Hamilton Street

Hamilton is an unstriped street with low volumes. From MLK to Church, it is one-way southbound, and it is two-way from Congress to MLK and from Church to Civic Center. To reduce speeding and simplify neighborhood circulation, Hamilton should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

One exception is needed: where the street is heavily parked on narrower sections, parking should be limited to one flank only. This occurs on two half-block stretches: one just south of St. Francis, and one just north of Conti.

As shown in section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

View south between Government and Church



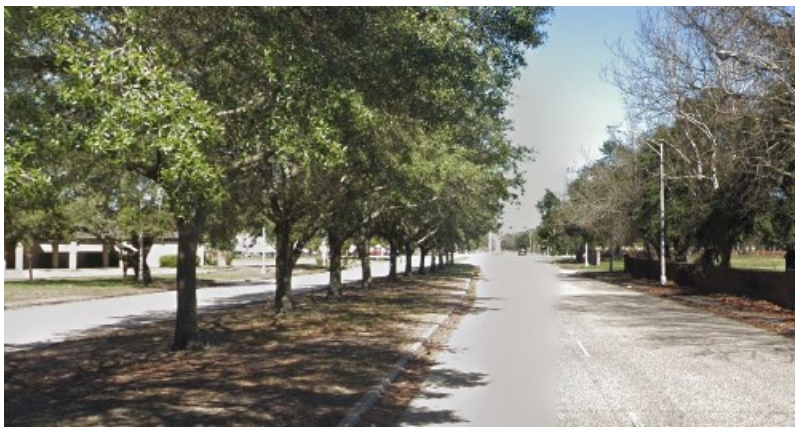
Hamilton, Typical

Lawrence Street

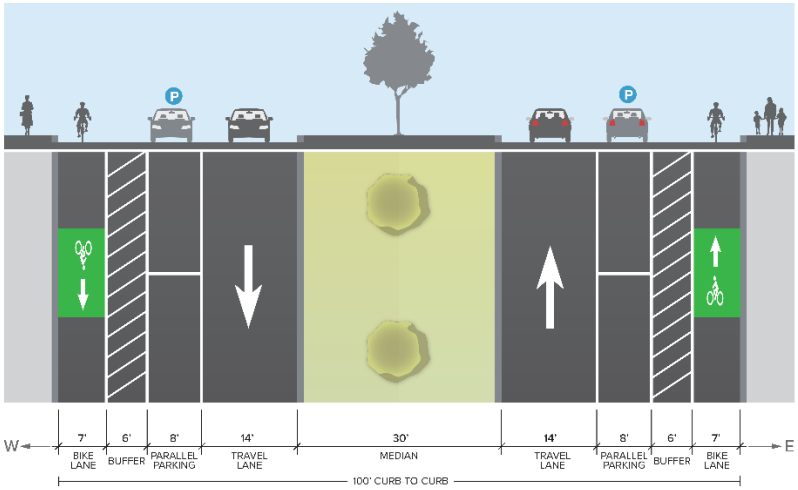
Lawrence carries fewer than 2,500 vehicles a day in a varying configuration. North of Congress, it is two-way; from Congress to Monroe, it is one-way northbound; south of Monroe, it is two-way.

North of Congress, Lawrence was designed for heavy traffic volumes it never received, with three ample lanes in each direction. Even though there is currently little parking demand in this area, the best long-term solution here is to convert four lanes to parking-protected cycle facilities.

South of Congress, Lawrence is prime for the same solution as Hamilton: to be made a two-way, yield-flow street for its full length. However, in this case, the need for a northbound bicycle facility in the section leads to a solution in which the two-way reversion stops at Conti, and a bike lane is inserted to that point from Canal.



View north between Chestnut and Congress



Lawrence from Beauregard to Congress

Between St. Anthony and St. Michael Streets, Lawrence Street narrows to under 24 feet in width, making a yield geometry only appropriate with parking on one side but not both. In this stretch, parking should be prohibited on the east side of the street.

As shown in section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

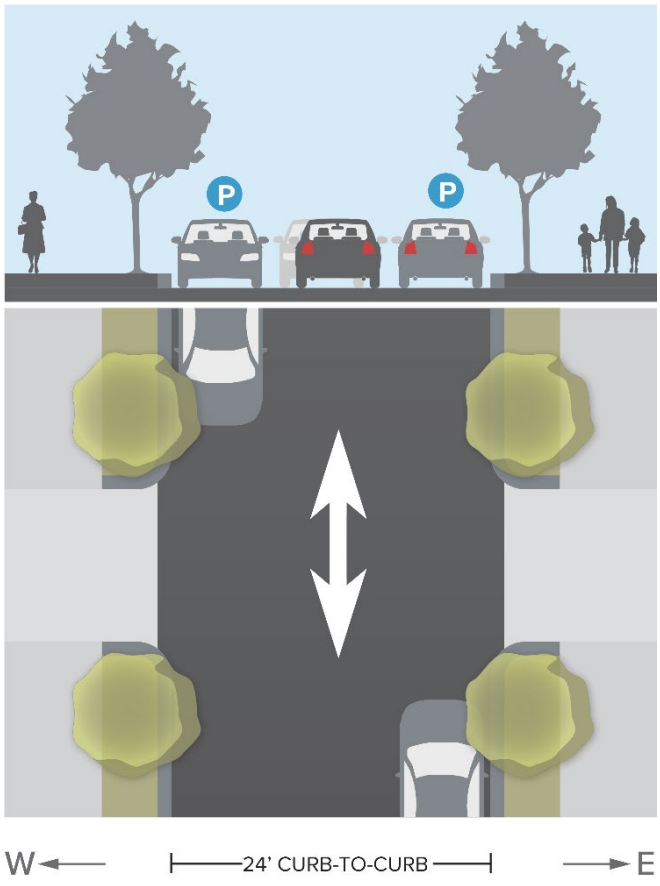
Restripe as follows:

- **Beauregard to Congress**: restripe either side of the boulevard as a 14-foot driving lane flanked by an 8-foot parking lane, 6-foot buffer, and 7-foot bike lane on the outside curb.

Lawrence Street (continued)

- **Congress to Conti**: revert to two-way travel, allowing parking on both sides.

View north between St. Anthony and State

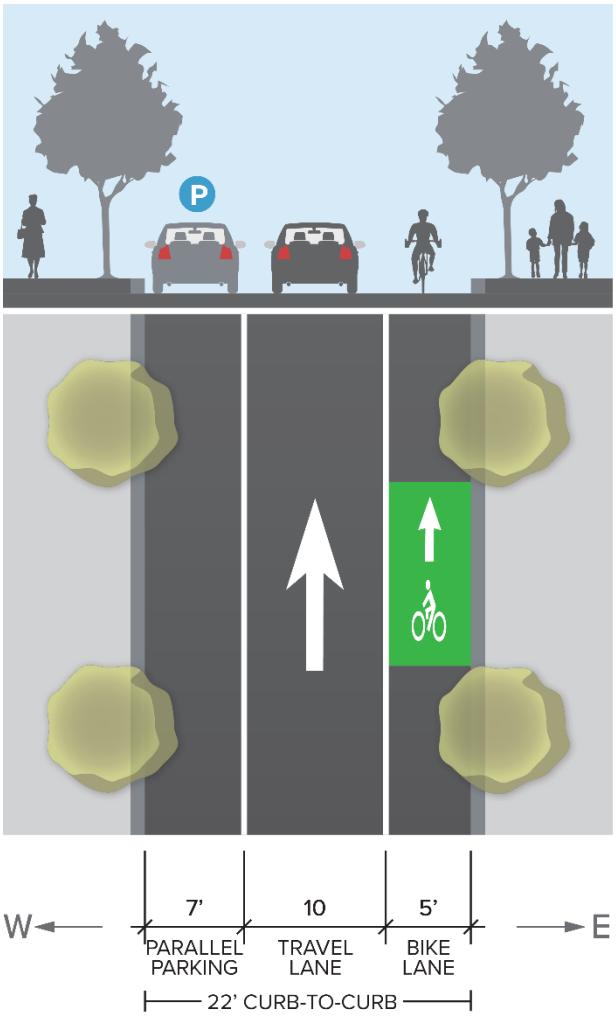


Lawrence from Congress to Conti

Lawrence Street (continued)

- **Conti to Church**: restripe as a 10-foot driving lane flanked by a 7-foot parking lane on the west curb and a northbound 5-foot bike lane on the east curb.

View north between Government and Church

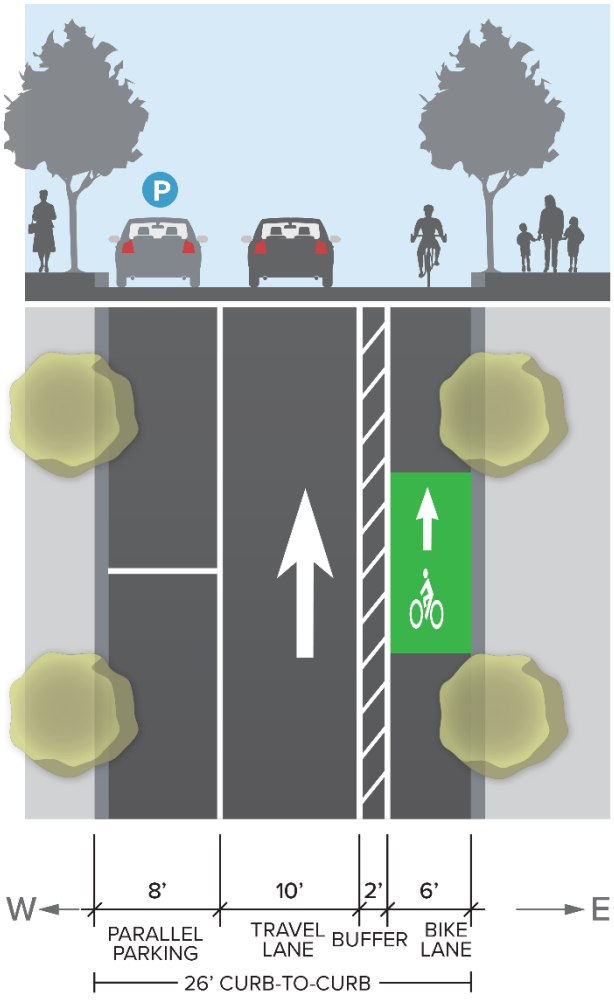


Lawrence from Conti to Church

Lawrence Street (continued)

- **Church to Civic Center**: restripe as a 10-foot driving lane flanked by an 8-foot parking lane on the west curb and a 6-foot northbound bike lane on the east curb. Where it widens beyond 24 feet between Monroe and Eslava, take up the additional width with a bike buffer.

View north between Monroe and Eslava

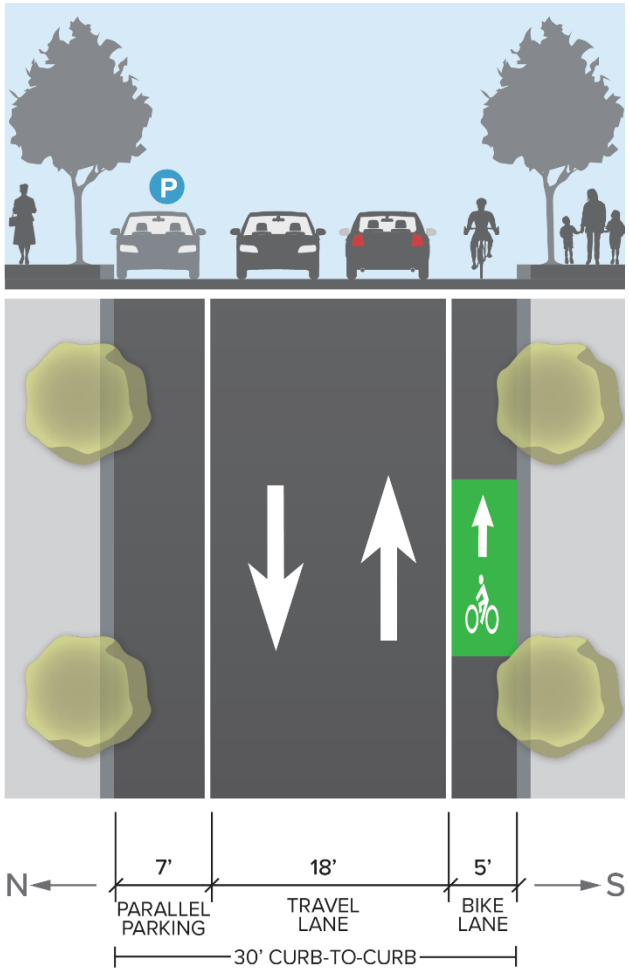


Lawrence from Civic Center to Eslava

Lawrence Street (continued)

- **Monroe to Canal**: This segment is currently two-way and should remain so for access reasons. Restripe as an 18-foot two-way travelway (no centerline) flanked by a 5-foot bike lane on the east curb and a 7-foot parking lane on the west curb.

View north between Monroe and Eslava



Lawrence from Eslava to Canal

Cedar Street

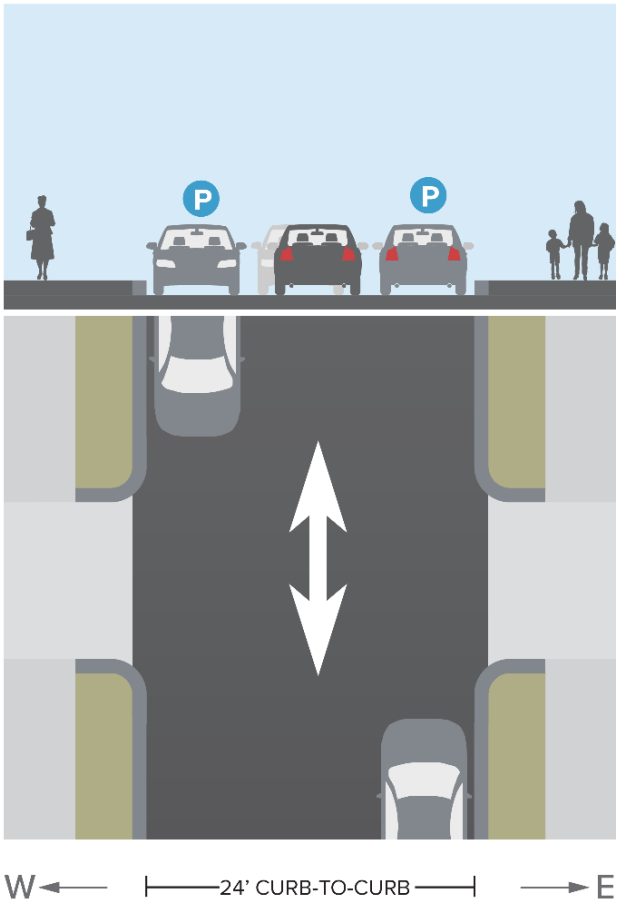
Cedar is an unstriped street with low volumes. From Congress to St. Anthony, it is two-way; from St. Anthony to Church, it is one-way southbound; and, from Church to Canal, it is two-way. To reduce speeding and simplify neighborhood circulation, Cedar should be reverted back to two-way travel. This should be done as far south as Conti, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4. Between Dauphin and Conti Streets, Cedar Street narrows to under 24 feet in width, making a yield geometry only appropriate with parking on one side but not both. In this stretch, parking should be prohibited on the east side of the street.

From Conti to Government Street, the anticipated dropoff demands of the future Barton Academy are best served by maintaining one-way flow. Additionally, if adequate dropoff queuing space is not available on other adjacent streets, the existing parking lane on this segment should switch from the west curb to the east curb, with parking meters removed.

Finally, maintaining one-way flow an additional block south, from Government to Church Street, will allow the Government Street signal to maintain its current configuration. When Government Street's signals are scheduled for reconfiguration, reverting this block to two-way should be pursued.

As shown in section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

View north between St. Francis and Dauphin



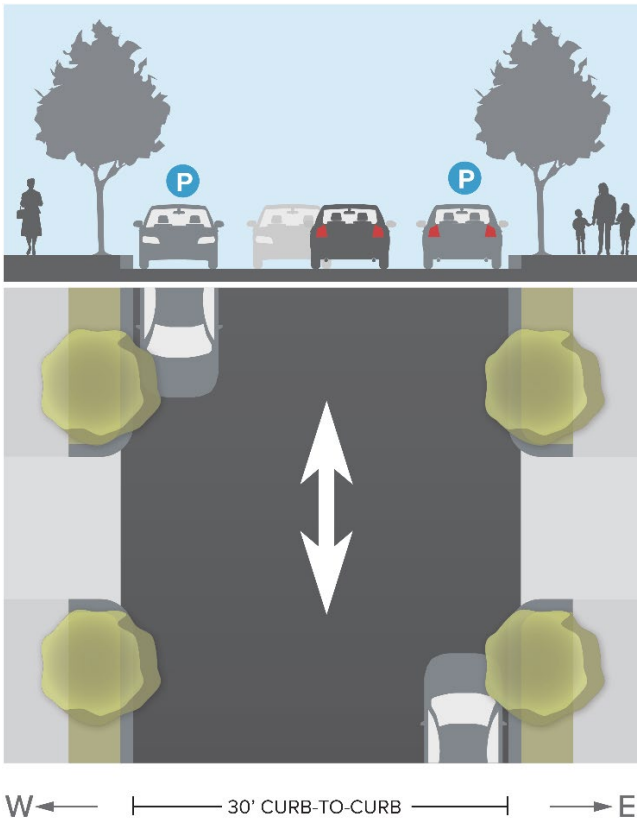
Cedar, Typical

Warren Street

Warren is an unstriped street with low volumes. North of Church, it is one-way northbound; south of Church, it is two-way. Its width varies from 25 to 30 feet. To reduce speeding and simplify neighborhood circulation, Warren should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

As shown in section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

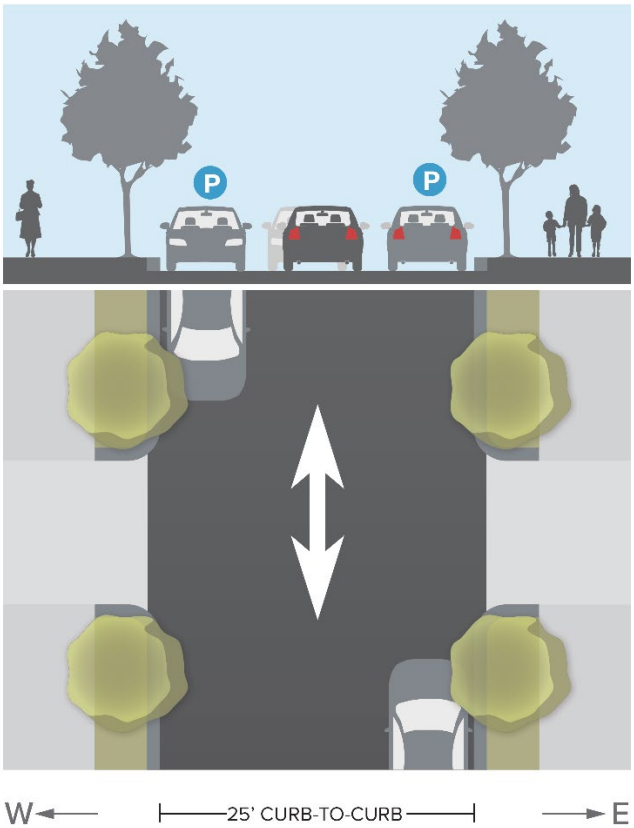
View north between Congress and State



Warren from Congress to St. Francis

Warren Street (continued)

View north between Church and Monroe



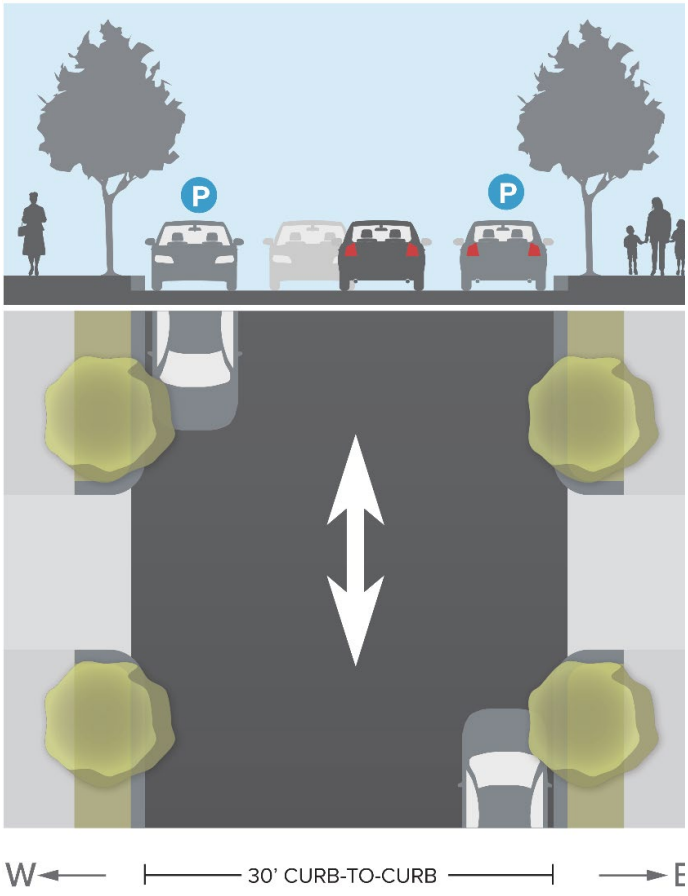
Warren from St. Francis to Church

Dearborn Street

Dearborn is an unstriped street with low volumes. North of Church, it is one-way southbound; south of Church, it is two-way. To reduce speeding and simplify neighborhood circulation, Dearborn should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

As shown in section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

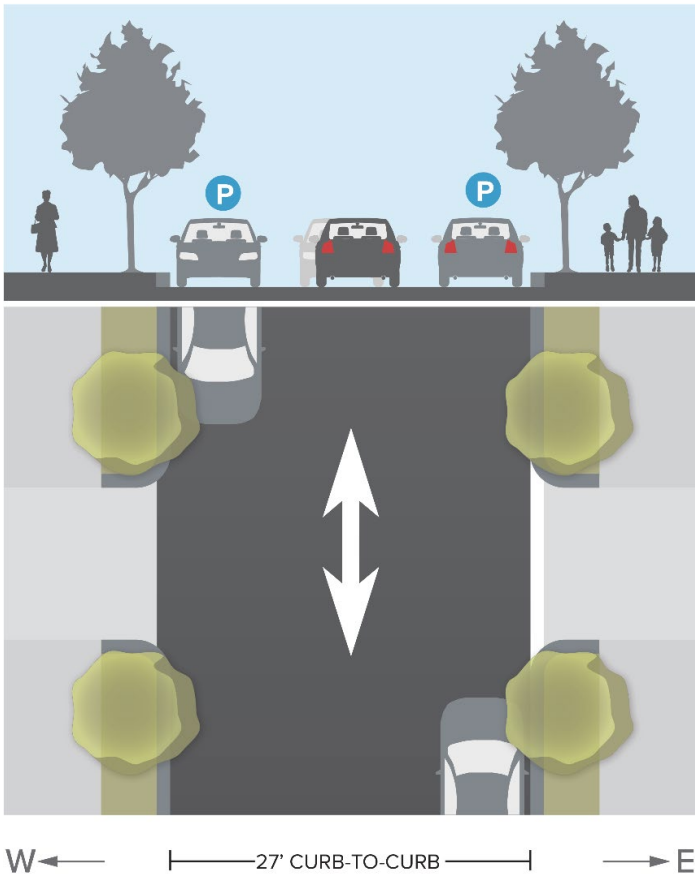
View south between Monroe and Canal



Dearborn from Congress to St. Francis and Church to Canal

Dearborn Street (continued)

View south between St Francis and Dauphin



Dearborn from St. Francis to Church

Washington Avenue

Washington is a two-way street that carries fewer than 2,500 vehicles a day north of Church Street, and between 2,500 and 5,000 vehicles south of Church. North of Government Street, Washington's driving lanes are 15 feet wide. South of Government, the street contains an unnecessary center turn lane. Both of these conditions encourage speeding.

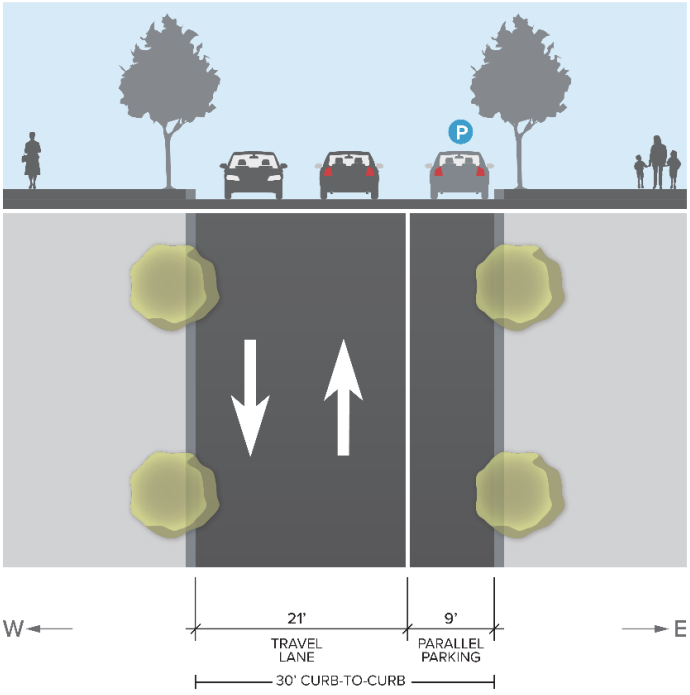
As discussed in Section 1.6, bicycle connectivity through downtown depends on the insertion of bike lanes to the south of Spring Hill only. To the north, the spare room has the highest value redeployed as a lane of parallel parking.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Anthony, St. Louis, St. Francis, Spring Hill, Dauphin, and Conti. To further calm traffic, the intersection with Monroe Street should receive all-way stop signs.

Restripe as follows:

- **Adams to St. Francis**: restripe as a 21-foot travelway (no centerline) flanked by a 9-foot parking lane on the east curb.

View south between St. Anthony and St. Louis

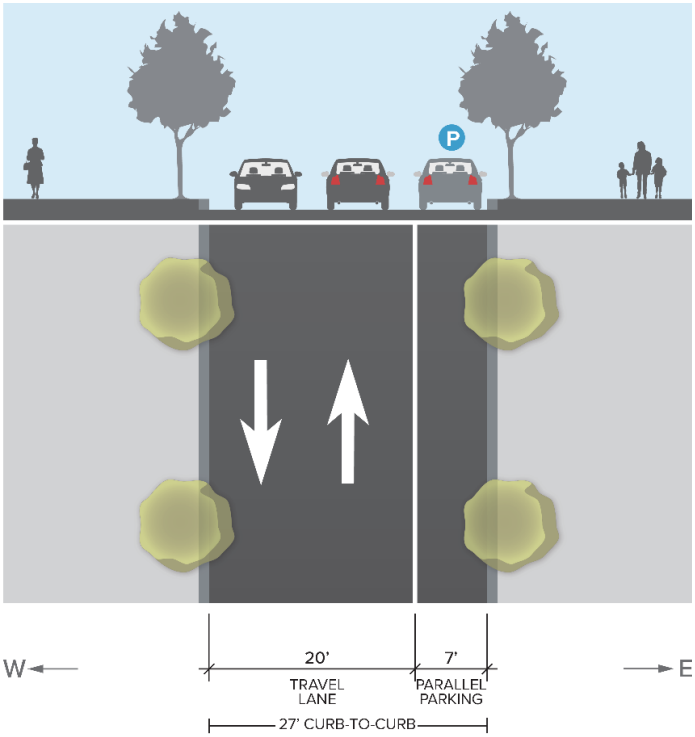


Washington from Adams to St. Francis

Washington Avenue (continued)

- **St. Francis to Spring Hill**: restripe this slightly narrower section as a 20-foot travelway (no centerline) flanked by a 7-foot parking lane on the east curb.

View north between St. Francis and Spring Hill

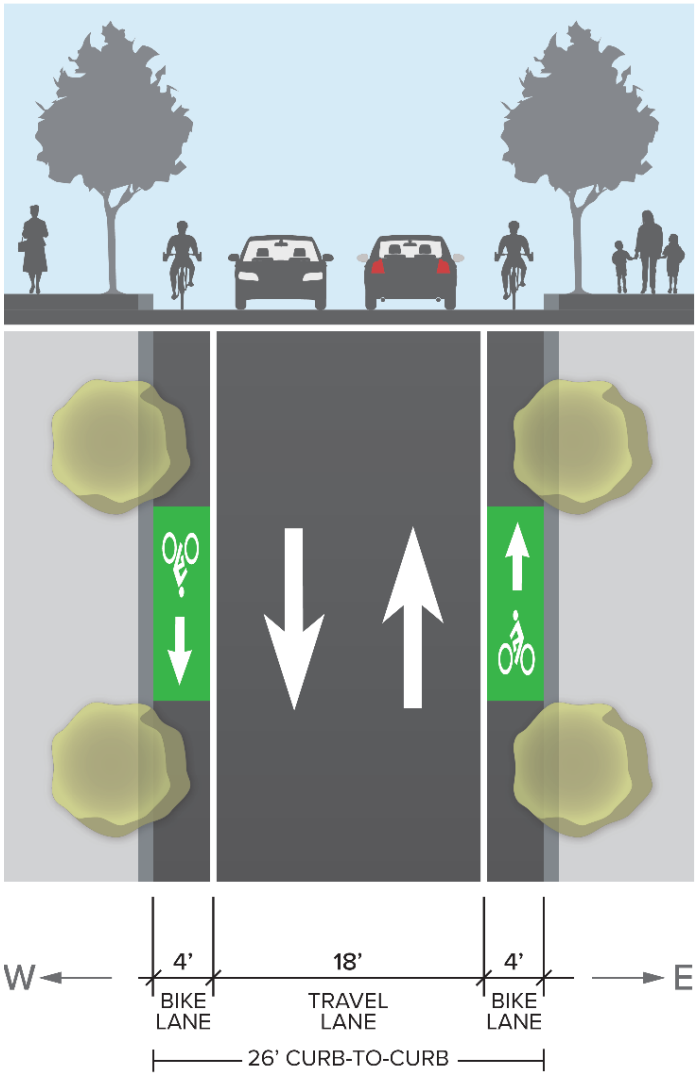


Washington from St. Francis to Spring Hill

Washington Avenue (continued)

- **Spring Hill to Government**: restripe this short stretch as a 18-foot travelway (no centerline) flanked by a 4-foot bike lane on both curbs.

View south between Conti and Government

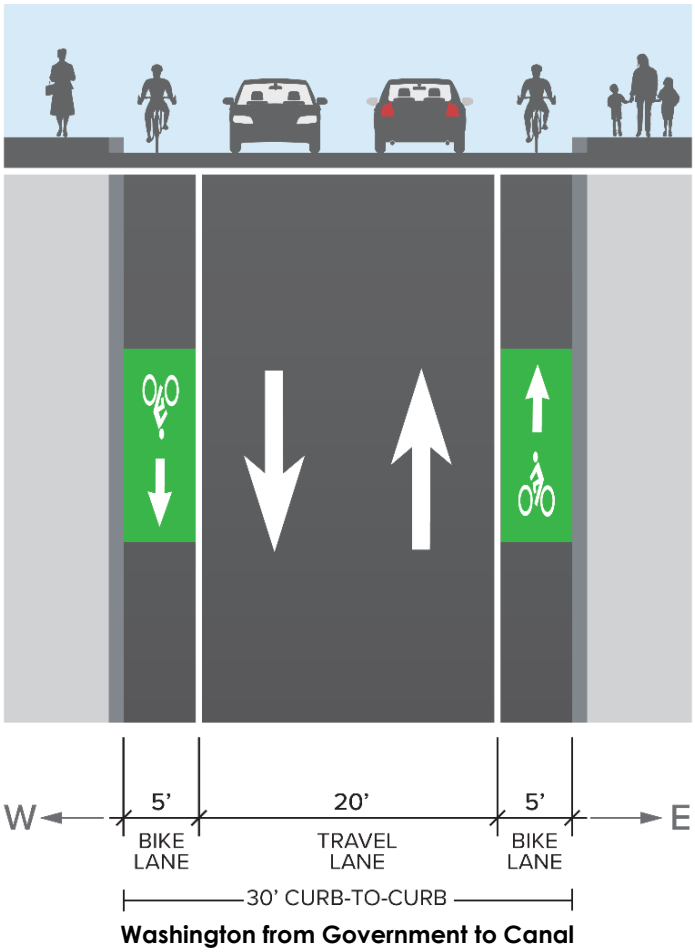


Washington from Spring Hill to Government

Washington Avenue (continued)

- **Government to Canal**: restripe as a 20-foot travelway (no centerline) flanked by a 5-foot bike lane on both curbs. As discussed in Section 1.6, this bicycle facility should continue safely south beyond Canal Street.

View south between Government and Church

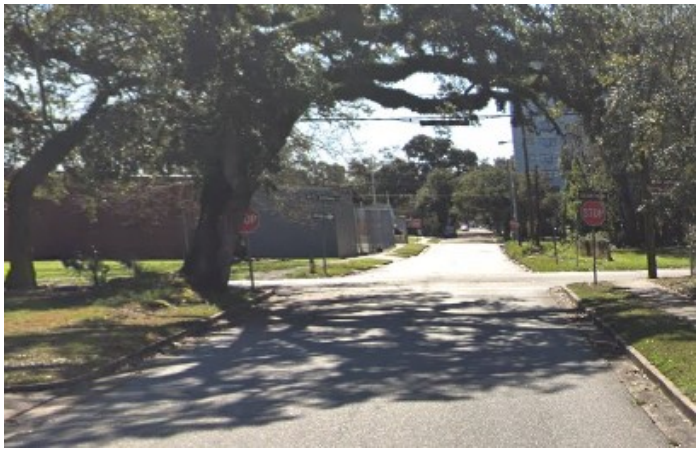


Washington from Government to Canal

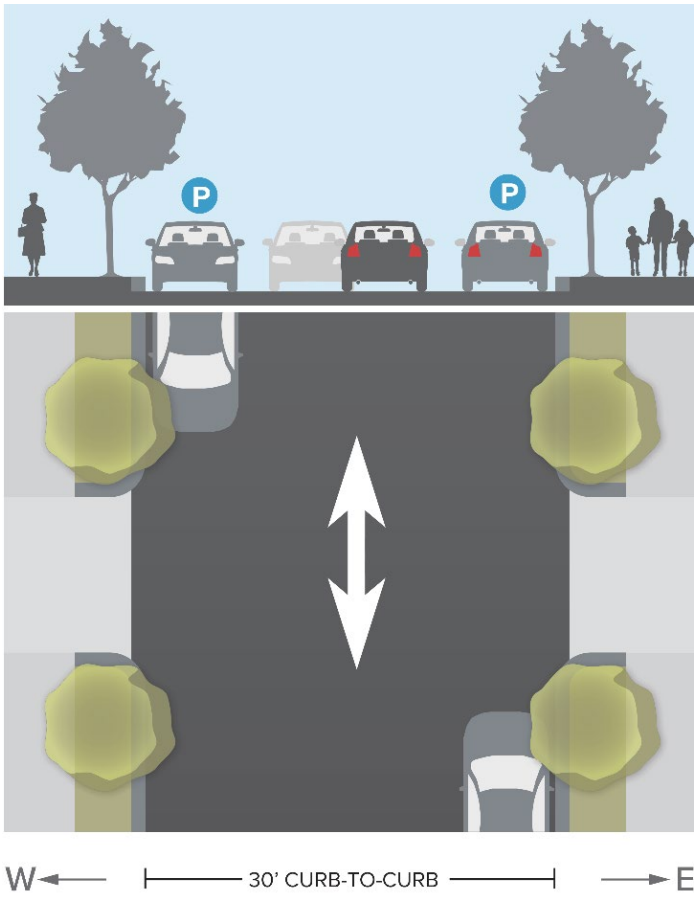
Scott Street

Scott is an unstriped street with low volumes. North of Government, it is one-way southbound; south of Government, it is two-way. To reduce speeding and simplify neighborhood circulation, Scott should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

As discussed in Section 1.10, traffic signals should be replaced with all-way stops at St. Francis and Spring Hill. The reversion to two-way travel will require additional stop signs at impacted intersections.



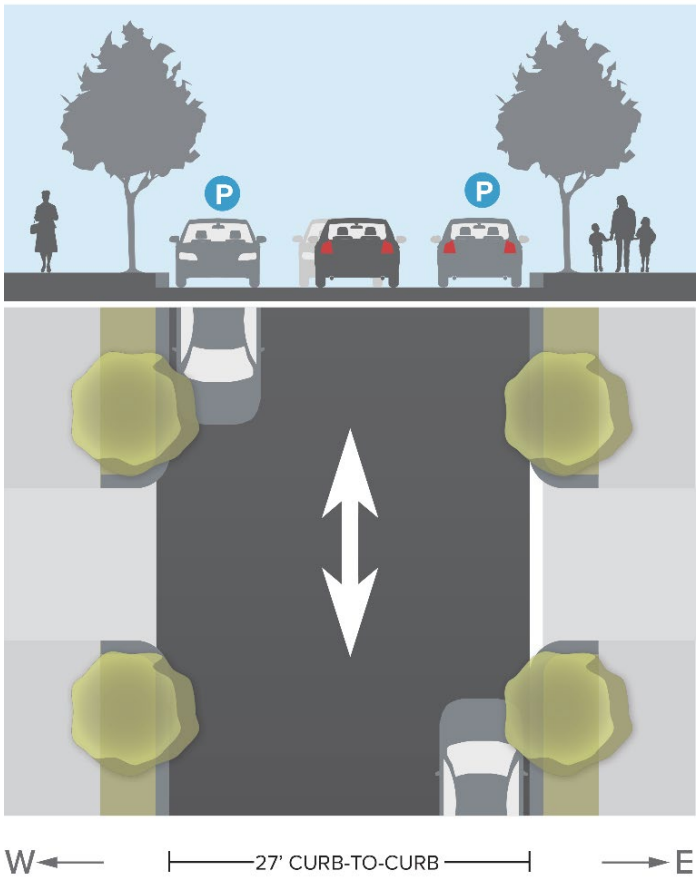
View south between State and St. Anthony



Scott from Congress to St. Francis

Scott Street (continued)

View south between Spring Hill and Dauphin



Scott from St. Francis to Monroe

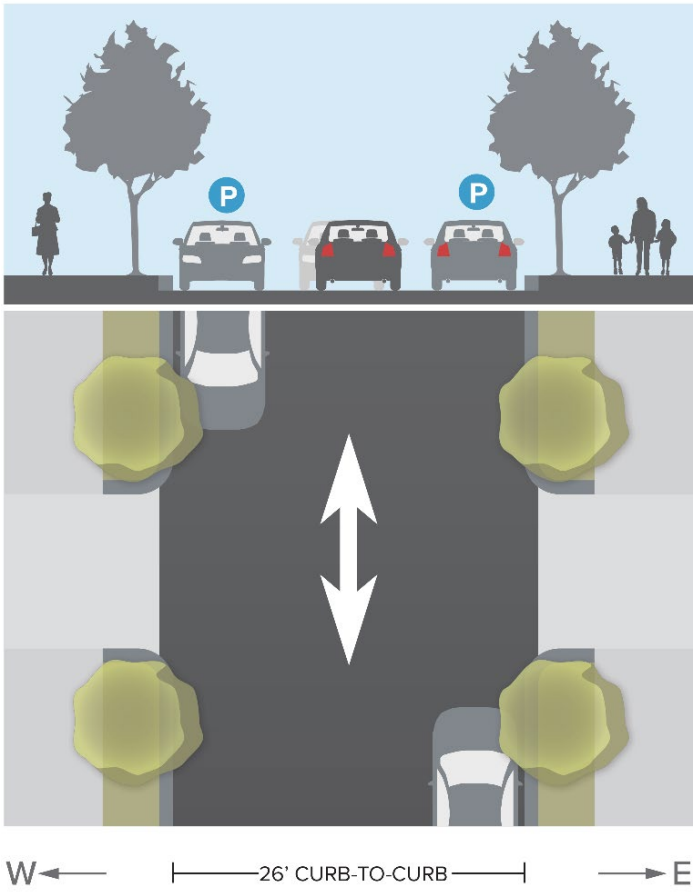
Bayou Street

Bayou is an unstriped street with low volumes. North of Government, it is one-way northbound; south of Government, it is two-way. To reduce speeding and simplify neighborhood circulation, Bayou should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

At the entry to the Mobile County Health Department, an appropriate length no-parking zone will need to be negotiated with the property owner.

As discussed in Section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections.

View north between St. Louis and St. Anthony



Bayou, Typical

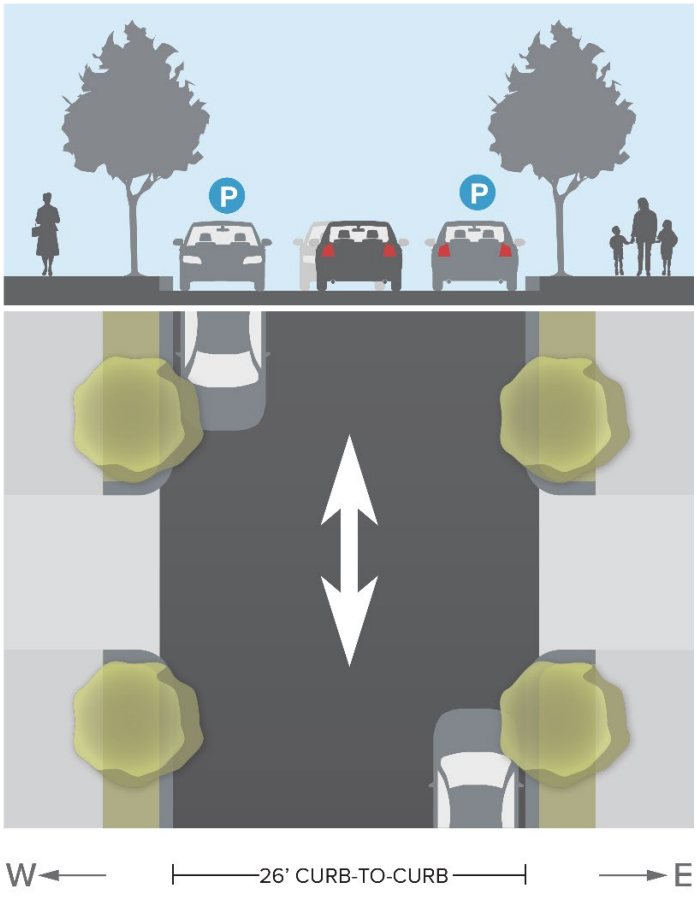
Jefferson Street

Jefferson is an unstriped street with low volumes. North of Spring Hill, it is one-way southbound; south of Dauphin, it is two-way. To reduce speeding and simplify neighborhood circulation, Jefferson should be reverted back to two-way travel from end-to-end, with unmarked parking allowed on both sides in a traditional Yield Street condition, as further described in Section 1.4.

As shown in Section 1.10, the reversion to two-way travel will require additional stop signs at impacted intersections. To further calm traffic, an additional all-way stop should be inserted at Church Street.

As shown in Section 1.8, Jefferson's intersection with Government Street is dangerously broad and should be rebuilt or restriped at the first opportunity.

View north between St. Anthony and St. Louis



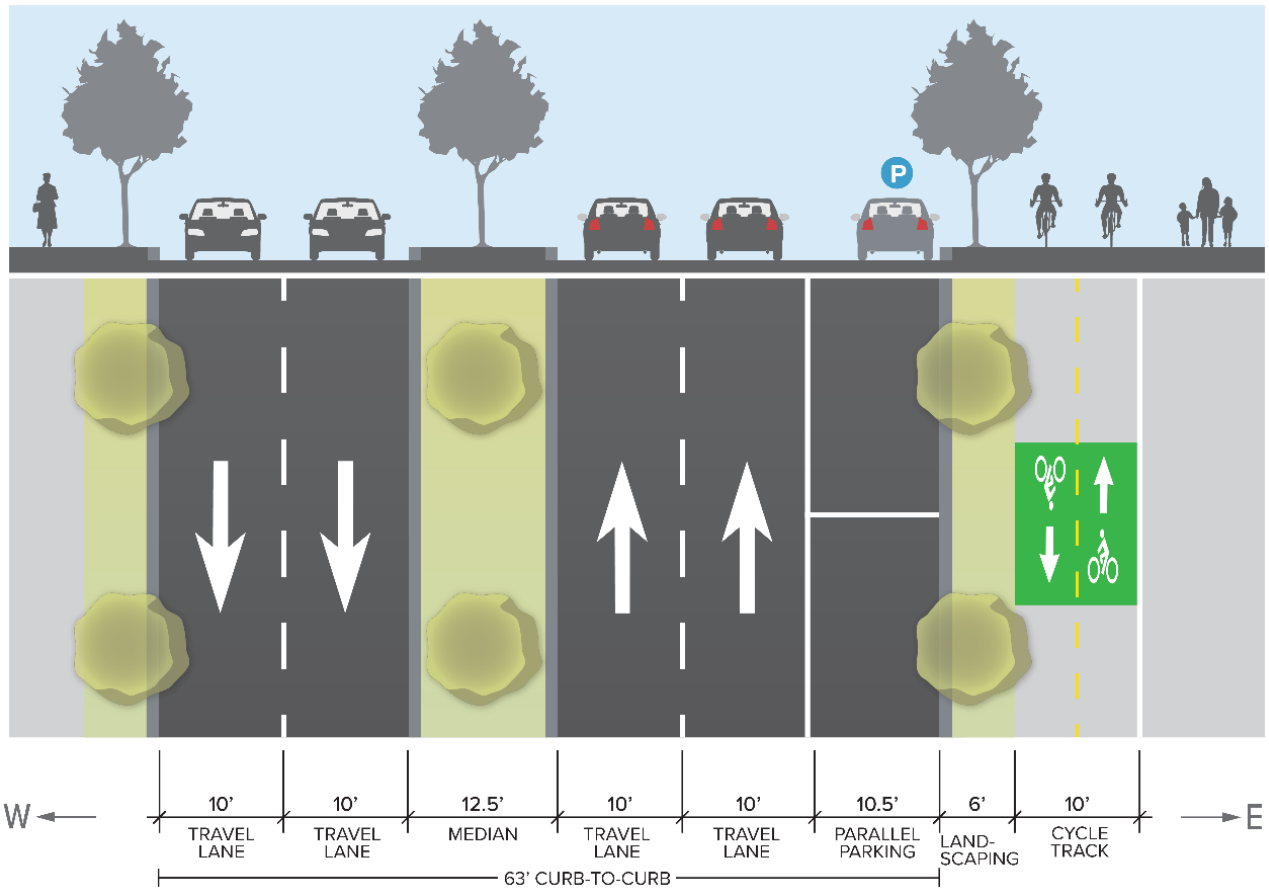
Jefferson, Typical

Broad Street

Broad Street carries slightly over 20,000 vehicles a day between Spring Hill and Government, and fewer than 10,000 in all other segments. It is currently under construction to redevelop the corridor with federal grant assistance. As depicted below, the rebuild will enhance the streetscape and replace two extra driving lanes with on-street parking and a shared used path on the east flank.

View north between Dauphin and Conti

For a considerable part of its length, this rebuild provides capacity well in excess of demand. Given that the street is under construction, significant changes to its plan are not possible, but smaller alterations are. Specifically, Broad Street's intersection with Conti Street is in need of limited modification, as already described in Section 1.11 and further discussed in the Appendix.



Broad, Typical

3 Diagonal Streets

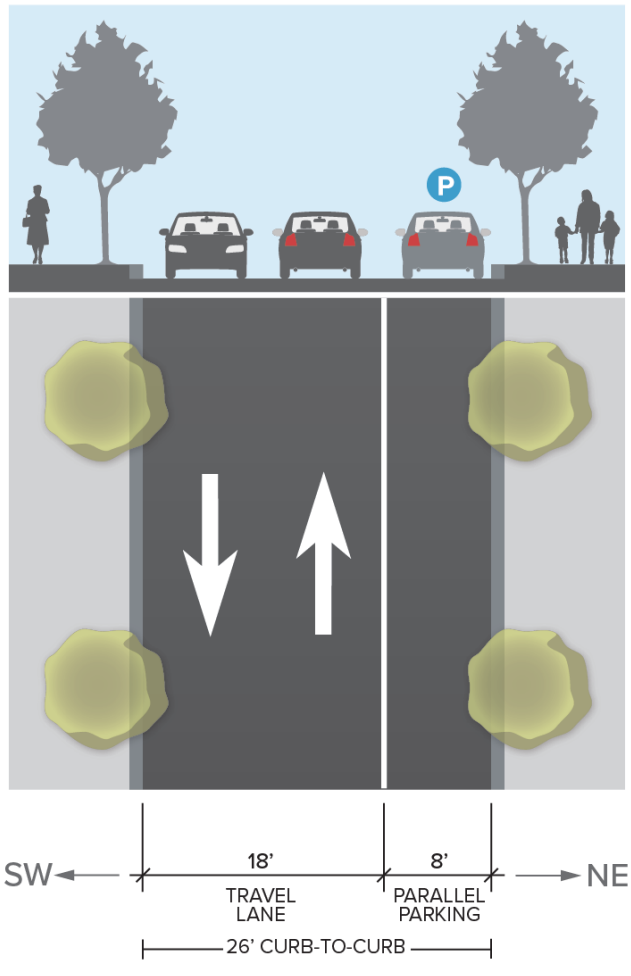
Lyons Street

Lyons is a one-block-long two-way street at the northern end of Washington Avenue that carries fewer than 2,500 vehicles a day. Lyons' 13-foot-wide driving lanes encourage higher speeds, and ample room exists to stripe a curbside parking lane. To further calm traffic, the centerline should be removed.

Restripe as follows:

- **Broad to Adams**: restripe as an18-foot two-way travelway (no centerline) flanked by an 8-foot parking lane on the east curb.

View southeast between Broad and Adams



Lyons from Broad to Adams

Spring Hill Avenue

Spring Hill is a two-way street that carries fewer than 5,000 vehicles a day yet contains four wide lanes, encouraging speeding. These lanes can easily be redeployed as parking-protected bike lanes, tying together the new cycling trail on Broad Street with planned facilities on St. Michael, St. Francis, and Washington.

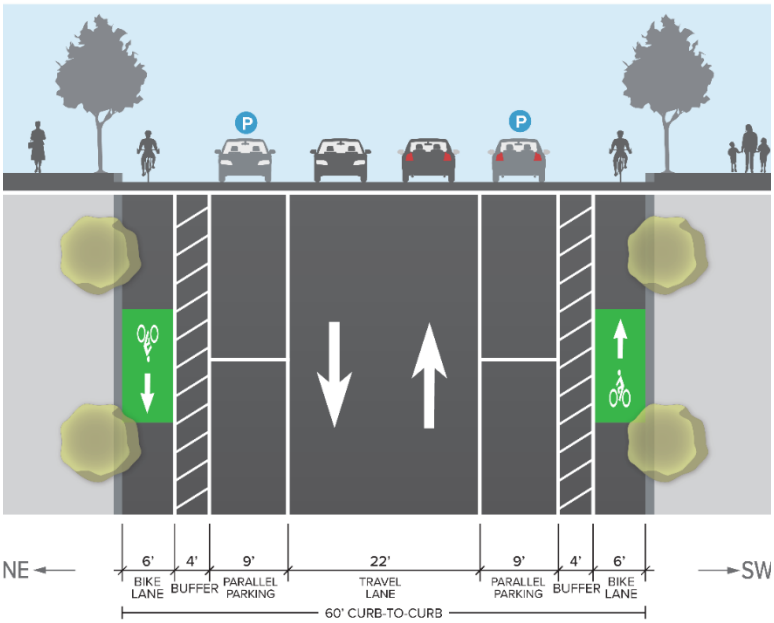
As discussed in Section 1.10, traffic signals should be replaced with all-way stops at Washington, Scott, and St. Francis Street.

As discussed in Section 1.11, Spring Hill's intersection with St. Louis and Broad Streets is also in need of modification to support the changes proposed here. (The City has initiated a change order to remove the curb extensions at Broad in order to realize this plan.)

Restripe as follows:

- **Broad to Washington**: restripe as a 22-foot two-way travelway (no centerline) flanked by a 9-foot parking lane, 4-foot buffer, and 6-foot bike lane on both curbs
- **Washington to Dauphin**: no changes.

View northwest between Washington and Scott



Spring Hill from Broad to Washington

Martin Luther King Jr. Avenue

Martin Luther King Avenue (MLK) is a two-way street that carries fewer than 2,500 vehicles a day. Its cross section varies, but for most of its length it contains either too many lanes (more than the two needed) or lanes that are too wide (more than the 10-foot standard). Both of these conditions encourage speeding and deprive the street of parallel parking that would aid in its development.

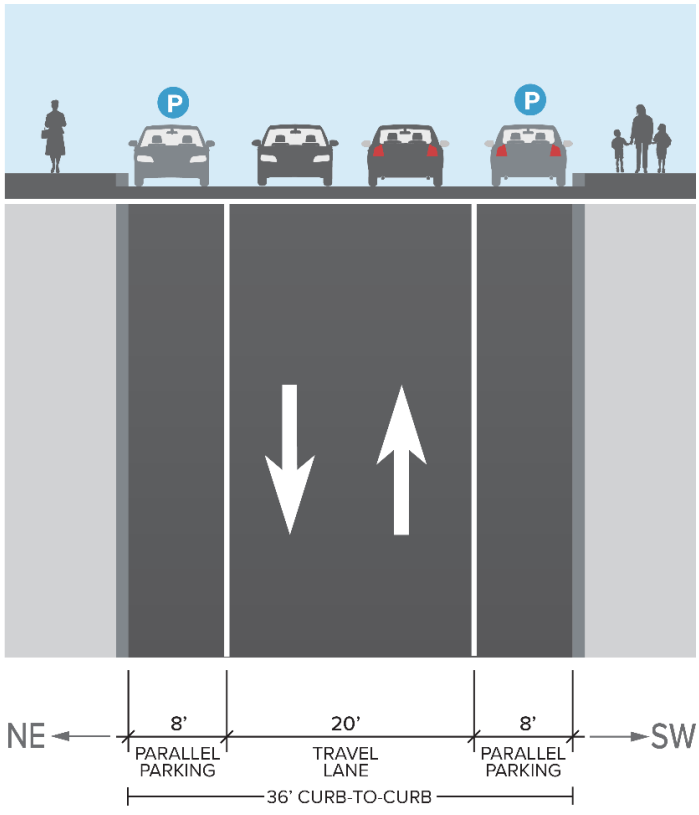
The strategy for restriping the street is to lay out a central travelway that maintains a typical width of 20 feet and a minimum width of 18 feet, with the remainder of the street dedicated to parallel parking.

In its brief narrower sections, modify this design as follows:

- 34 to 26 feet: remove one parking lane
- Below 26 feet: remove both parking lanes.

When the travelway would otherwise exceed 20 feet, widen the parking lane(s) to 9 feet.

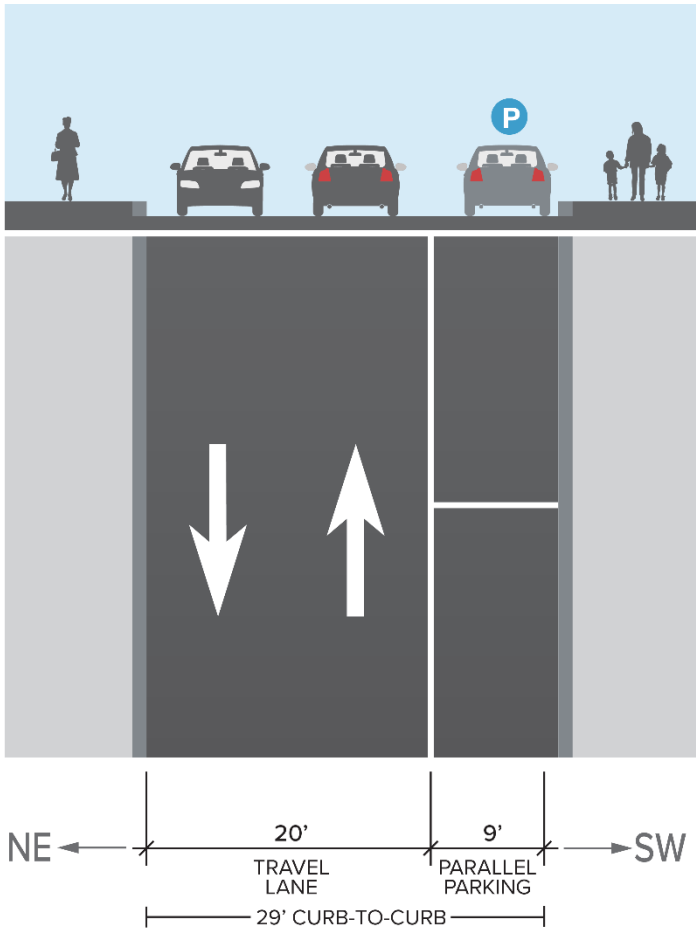
View northwest between State and Hamilton



MLK from Congress to St. Anthony

Martin Luther King Jr. Avenue (continued)

View northwest between St. Anthony and Claiborne



MLK from St. Anthony to Claiborne

APPENDIX

Traffic Study Documentation

MOBILE
Optimizing Downtown Streets

MEMORANDUM

To: **City of Mobile**

From: **Nelson\Nygaard and Speck & Associates LLC**

Date: March 19, 2021

Subject: **Lane Audit Methodology**

Overview

The changes proposed in this Plan were based on a Lane Audit comparing the supply of lanes in downtown Mobile to the demand for them. The findings of the Lane Audit enabled the repurposing of surplus driving lanes to other uses such as parking, cycling, or the reintroduction of two-way traffic. The results of this analysis reveal where in the network the number of lanes may exceed the demand or could be classified as oversupply.

Data

Traffic volume data was provided by the City of Mobile and Alabama Department of Transportation.

- The City of Mobile provided continuous hourly midblock volume counts collected over 3 to 5 days between 2017 and 2019 for some of Mobile's streets. Counts for each direction on major roadways were conducted simultaneously but reported per direction.
- A dataset from the Alabama Department of Transportation (ALDOT) provided annual average daily traffic (AADT) volumes for most street segments in Mobile.
- Number and direction of lanes were provided by the ALDOT dataset and verified with Nearmap aerial imagery data collected in January 2020 and January 2021. Public and client input was also incorporated to ensure accuracy.
- Lane configurations were based on January 2021 conditions, and data represents midblock segment volumes.

Assumptions

The following assumptions were employed for the analysis:

- Traffic growth to the present year was considered negligible for all segments analyzed.
- If no volume data were available for a street segment but were available for an adjacent segment of the same street with a similar lane configuration, the volume was assumed to be the same.

- **500 vehicles per hour per lane** was used as a threshold to determine whether one vehicular lane was adequate in one direction.
  - A study conducted by the state of Iowa determined an adequate threshold of 750 vehicles per hour per lane, per direction[1], therefore the 500 vehicle per hour per lane measure can be considered conservative.
  - This metric incorporated a healthy buffer to allow for turning movement friction, signal delay, traffic variability, and additional future traffic growth onto the street network. All the aforementioned sensitivity factors can affect roadway capacity on a block-by-block level at different times of day.
- Capacity of through lanes was analyzed at the segment level, and no signalized intersections were analyzed for operational performance.
  - Traffic volumes on intersecting street segments are the principal determinator of intersection performance, and thus can be used to infer outcomes. The proposed replacement of signals with stop signs can be expected to improve performance, as stop-controlled intersections are less likely to experience vehicular delay than signalized intersections.[2]

Analysis

Volume capacity calculations were based on peak hour through volumes. Peak hour volumes were determined by two different methodologies described below.

- *For locations with **hourly** volume counts*:
  - The single highest hourly volume per direction was used.
- *For locations with **AADT only***:
  - Calculated the percent of the AADT volume that occurred in the single highest hour if both AADT and a through volume count was available.
  - This percentage was averaged for all locations where both an AADT and a peak hour through volume count was available, resulting in 10.4%.
  - 10.4% was applied to all locations with an AADT, but no hourly through volume count to calculate an estimated peak hour through volume.

Once the peak hour volume was calculated, the volume was compared to the number of existing lanes. For each 500 vehicles per hour per lane per direction a street had in excess, one lane was considered oversupply. Table 1 and 2 attached show the results of this analysis.

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[1] Knapp et al., Urban Four-Lane Undivided to Three-Lane Roadway Conversion Guidelines. Mid-Continent Transportation Research Symposium. 2003.

[2] Federal Highway Administration. Manual on Uniform Traffic Control Devices. Washington, DC: Federal Highway Administration, 2009.

Table 1

Lane Audit by Peak Hour Volume (Measured) for Select Streets

Street Name	Segment Begins	Segment Ends	Peak Hour (vph)	Number of Lanes	Capacity (vph)	Oversupply (vph)	2-Way	2-Lane 2-Way Extra Lanes	One-way	One-way Extra Lanes	Total Extra Lanes
CANAL ST (EB)	S SCOTT ST	S WASHINGTON AVE	298	2	1000	702			X	1	1
CANAL ST (WB)	S SCOTT ST	S WASHINGTON AVE	319	2	1000	681			X	1	1
CANAL ST (EB)	S JEFFERSON St	S BROAD ST	287	2	1000	713			X	1	1
CANAL ST (WB)	S JEFFERSON St	S BROAD ST	206	2	1000	794			X	1	1
CONGRESS ST	ST JOSEPH ST	N CONCEPTION ST	280	2	1000	720	X	0			0
CONGRESS ST (EB)	N JEFFERSON ST	N BROAD ST	193	2	1000	807			X	1	1
CONGRESS ST (WB)	N JEFFERSON ST	N BROAD ST	224	2	1000	776			X	1	1
CONTI ST	S WARREN ST	S DEARBORN ST	76	1	500	424			X	0	0
CONTI ST	ST EMANUEL ST	S CONCEPTION ST	172	1	500	328			X	0	0
DAUPHIN ST	N CLAIBORNE ST	N FRANKLIN ST	302	1	500	198			X	0	0
DAUPHIN ST	N JOACHIM ST	N JACKSON ST	260	1	500	240			X	0	0
DAUPHIN ST	N CONCEPTION ST	N JOACHIM ST	254	1	500	246			X	0	0
DAUPHIN ST	N ROYAL ST	ST JOSEPH ST	248	1	500	252			X	0	0
GOVERNMENT ST (EB)	S SCOTT ST	S FRANKLIN ST	711	2	1000	289			X	0	0
GOVERNMENT ST (WB)	S SCOTT ST	S FRANKLIN ST	953	2	1000	47			X	0	0
GOVERNMENT ST (EB)	S WASHINGTON AVE	S SCOTT ST	899	2	1000	101			X	0	0
GOVERNMENT ST (WB)	S WASHINGTON AVE	S SCOTT ST	944	2	1000	56			X	0	0
GOVERNMENT ST (EB)	S JOACHIM ST	S JACKSON ST	979	2	1000	21			X	0	0
GOVERNMENT ST (WB)	S JOACHIM ST	S JACKSON ST	1179	2	1000	-179			X	0	0
GOVERNMENT ST (EB)	S CONCEPTION ST	S JOACHIM ST	1381	2	1000	-381			X	0	0
GOVERNMENT ST (WB)	S CONCEPTION ST	S JOACHIM ST	1202	2	1000	-202			X	0	0
GOVERNMENT ST (EB)	ST EMANUEL ST	S CONCEPTION ST	1358	2	1000	-358			X	0	0
GOVERNMENT ST (WB)	ST EMANUEL ST	S CONCEPTION ST	1312	2	1000	-312			X	0	0
GOVERNMENT ST (EB)	S CLAIBORNE ST	S FRANKLIN ST	711	2	1000	289			X	0	0
GOVERNMENT ST (WB)	S CLAIBORNE ST	S FRANKLIN ST	568	2	1000	432			X	0	0
GOVERNMENT ST (EB)	S LAWRENCE ST	S CEDAR ST	832	2	1000	168			X	0	0
GOVERNMENT ST (WB)	S LAWRENCE ST	S CEDAR ST	1047	2	1000	-47			X	0	0
N BROAD ST (NB)	DAUPHIN ST	ST FRANCIS ST	636	3	1500	864			X	1	1
N BROAD ST (NB)	CONGRESS ST	LYONS ST	446	3	1500	1054			X	2	2
N BROAD ST (SB)	DAUPHIN ST	ST FRANCIS ST	910	3	1500	590			X	1	1
N BROAD ST (SB)	CONGRESS ST	LYONS ST	368	3	1500	1132			X	2	2
N CONCEPTION ST	ST MICHAEL ST	ST LOUIS ST	89	1	500	411			X	0	0
N JACKSON ST	ST FRANCIS ST	ST MICHAEL ST	168	1	500	332			X	0	0

Peak hour volumes based on counts collected by the City of Mobile between 2017 and 2019.

Table 1

Lane Audit by Peak Hour Volume (Measured) for Select Streets

Street Name	Segment Begins	Segment Ends	Peak Hour (vph)	Number of Lanes	Capacity (vph)	Oversupply (vph)	2-Lane 2-Way	2-Lane 2-Way Extra Lanes	One-way	One-way Extra Lanes	Total Extra Lanes
N JACKSON ST	DAUPHIN ST	ST FRANCIS ST	198	1	500	302			X	0	0
N JOACHIM ST	ST FRANCIS ST	ST MICHAEL ST	130	1	500	370			X	0	0
N ROYAL ST	STATE ST	CONGRESS ST	77	2	1000	923	X	0			0
N ROYAL ST	DAUPHIN ST	ST FRANCIS ST	261	2	1000	739	X	0			0
N WATER ST (NB)			1229	2	1000	-229			X	0	0
N WATER ST (SB)	ADAMS ST	ST JOSEPH ST	1102	2	1000	-102			X	0	0
S BROAD ST (NB)	GOVERNMENT ST	CHURCH ST	435	2	1000	565			X	1	1
S BROAD ST (SB)	GOVERNMENT ST	CHURCH ST	490	2	1000	510			X	1	1
S CLAIBORNE ST	CHURCH ST		270	3	1500	1230			X	2	2
S CLAIBORNE ST	GOVERNMENT ST	CHURCH ST	124	2	1000	876			X	1	1
S CONCEPTION ST	CONTI ST	GOVERNMENT ST	114	1	500	386			X	0	0
S JACKSON ST	DAUPHIN ST	CONTI ST	164	1	500	336			X	0	0
S JACKSON ST	CONTI ST	GOVERNMENT ST	254	1	500	246			X	0	0
S JACKSON ST	GOVERNMENT ST	CHURCH ST	269	1	500	231			X	0	0
S JACKSON ST	GOVERNMENT ST	CHURCH ST	269	1	500	231			X	0	0
S JOACHIM ST	GOVERNMENT ST	CHURCH ST	168	1	500	332			X	0	0
S ROYAL ST	DAUPHIN ST	CONTI ST	358	2	1000	642	X	0			0
S ROYAL ST	GOVERNMENT ST	CHURCH ST	187	2	1000	813	X	0			0
S SCOTT ST	CONTI ST	GOVERNMENT ST	52	2	1000	948			X	1	1
S SCOTT ST (NB)	GOVERNMENT ST		14	2	1000	986	X	0			0
S SCOTT ST (SB)	GOVERNMENT ST		14	2	1000	986	X	0			0
S WATER ST (NB)	S ROYAL ST		233	2	1000	767			X	1	1
S WATER ST (SB)	S ROYAL ST		326	2	1000	674			X	1	1
S WATER ST (NB)	DAUPHIN ST	GOVERNMENT ST	1836	2	1000	-836			X	0	0
S WATER ST (SB)	DAUPHIN ST	GOVERNMENT ST	1308	2	1000	-308			X	0	0
ST JOSEPH ST	STATE ST	CONGRESS ST	164	2	1000	836			X	1	1
ST JOSEPH ST	ST ANTHONY ST	STATE ST	175	2	1000	825			X	1	1
ST JOSEPH ST	ST MICHAEL ST	ST LOUIS ST	130	2	1000	870			X	1	1
ST LOUIS ST	N SCOTT ST	N BAYOU ST	262	2	1000	738	X	0			0
ST LOUIS ST	N WARREN ST	N DEARBORN ST	300	2	1000	700	X	0			0
ST LOUIS ST	N FRANKLIN ST	N HAMILTON ST	280	2	1000	720	X	0			0
ST LOUIS ST	N ROYAL ST	ST JOSEPH ST	262	2	1000	738	X	0			0
ST LOUIS ST	N CONCEPTION ST	N JOACHIM ST	276	2	1000	724	X	0			0

Peak hour volumes based on counts collected by the City of Mobile between 2017 and 2019.

Table 2

Lane Audit by Peak Hour Volume (10.4% of AADT) for Select Streets

AADT Location Description	Peak Hour (vph)	Number of Lanes	Capacity (vph)	Oversupply (vph)	2-Way	2-Lane 2-Way Extra Lanes	One-way	One-way Extra Lanes	Total Extra Lanes
AL16 btw S Warren St and S Dearborn St	2379	4	2000	-379	X	0			0
AL16 west of Water St	796	2	1000	204	X	0			0
Conception St north of Dauphin St	126	1	500	374			X	0	0
S Water St south of St Louis St	2927	4	2000	-927	X	0			0
S Broad St north of Charleston St	980	4	2000	1020	X	2			2
St Louis St west of N Warren St	244	2	1000	756	X	0			0
St Francis St east of N Royal St	315	2	1000	685	X	0			0
S Claiborne St south of Church St	168	3	1500	1332			X	2	2
Church St btw S Jackson St and S Joachim St	236	2	1000	764	X	0			0
N Claiborne St south of St Louis St	61	1	500	439			X	0	0
N Washington Ave north of State St	47	2	1000	953	X	0			0
St Anthony St west of St Joseph St	89	2	1000	911			X	1	1
N Conception St north of Congress St	11	1	500	489	X	0			0
St Anthony St west of N Scott St	131	2	1000	869			X	1	1
S Royal St south of Conti St	314	2	1000	686	X	0			0
Dauphin St east of Conception St	176	1	500	324			X	0	0
Dauphin St west of S Warren St	331	2	1000	669	X	0			0
AL16 Alt north of Old Shell Rd	2365	6	3000	635	X	0			0
Canal St north of Royal St	445	2	1000	555	X	0			0
St Michael St west of N Franklin St	48	1	500	452			X	0	0
N Joachim St south of Adams St	16	2	1000	984	X	0			0
St Anthony St east of N Royal St	103	2	1000	897			X	1	1
St Francis St west of N Joachim St	316	2	1000	684	X	0			0
Water Street south of AL16	3335	6	3000	-335	X	0			0
N Lawrence St btw State St and St Anthony St	18	1	500	482			X	0	0
N Royal St north of St Louis St	174	2	1000	826	X	0			0
St Anthony St west of N Conception St	84	1	500	416			X	0	0
S Washington Ave north of Monroe St	335	2	1000	665	X	0			0
AL16 northeast of Lawrence St	1119	6	3000	1881	X	2			2
AL16 southwest of Lawrence St	1114	6	3000	1886	X	2			2
S Washington Ave north of AL16	229	2	1000	771	X	0			0
Congress St west of N Water St	429	2	1000	571	X	0			0
St Anthony St btw N Claiborne St and N Jackson St	90	1	500	410			X	0	0

Peak hour volumes based on 10.4% of ALDOT 2016 AADT data.

Table 2

Lane Audit by Peak Hour Volume (10.4% of AADT) for Select Streets

AADT Location Description	Peak Hour (vph)	Number of Lanes	Capacity (vph)	Oversupply (vph)	2-Lane 2-Way Extra Lanes		One-way Extra Lanes		Total Extra Lanes
					2-Way		One-way		
AL16 btw Joachim St and N Conception St	1189	6	3000	1811	X	2			2
Joachim St south of St Louis St	79	1	500	421			X	0	0
Claiborne St north of Dauphin St	86	1	500	414			X	0	0
Lyons St btw AL13 and Congress St	46	2	1000	954	X	0			0
S Royal St south of Church St	148	2	1000	852	X	0			0
N Lawrence St btw St Francis St and Dauphin St	52	1	500	448			X	0	0
St Emanuel St south of Dauphin St	52	1	500	448			X	0	0
Claiborne St north of AL16	115	1	500	385			X	0	0
Joachim St south of Dauphin St	229	1	500	271			X	0	0
Dauphin St east of S Bayou St	255	2	1000	745			X	1	1
S Claiborne St south of Church St	168	3	1500	1332			X	2	2
Jackson St btw St Louis St and St Anthony St	55	1	500	445			X	0	0
N Washington Ave south of St Louis St	71	2	1000	929	X	0			0
St Joseph St south of St Anthony St	167	2	1000	833			X	1	1
St Francis St west of N Bayou St	259	2	1000	741			X	1	1
S Lawrence St btw Monroe St and Eslava St	49	2	1000	951			X	1	1
Lawrence St north of Congress St	135	3	1500	1365			X	2	2
Joachim St south of St Francis St	141	1	500	359			X	0	0
N Jackson St south of Adams St	17	2	1000	983	X	0			0
Congress St btw N Scott St and N Bayou St	258	4	2000	1742	X	2			2
Spring Hill Ave btw St Francis St and N Bayou St	333	4	2000	1667	X	2			2
S Jefferson St btw AL16 and Church St	61	2	1000	939	X	0			0
AL16 btw Jackson St and Claiborne St	2460	4	2000	-460	X	0			0
Church St east of S Hamilton St	174	2	1000	826	X	0			0
S Jackson St south of Church St	137	1	500	363			X	0	0
Church St btw S Jefferson St and S Broad St	35	2	1000	965	X	0			0
S Lawrence St btw Conti St and AL16	53	1	500	447			X	0	0
St Anthony St west of N Dearborn St	79	2	1000	921			X	1	1
AL16 south of Congress St	1478	6	3000	1522	X	2			2
St Francis St west of St Joseph St	356	2	1000	644	X	0			0
State St west of N Jackson St	34	2	1000	966	X	0			0
AL16 btw S Jefferson St and S Broad St	2630	4	2000	-630	X	0			0
Dauphin St west of S Jefferson St	296	2	1000	704	X	0			0

Peak hour volumes based on 10.4% of ALDOT 2016 AADT data.

Table 2

Lane Audit by Peak Hour Volume (10.4% of AADT) for Select Streets

AADT Location Description	Peak Hour (vph)	Number of Lanes	Capacity (vph)	Oversupply (vph)	2-Lane 2-Way Extra Lanes		One-way Extra Lanes		Total Extra Lanes
					2-Way		One-way		
S Broad St south of AL16	1499	6	3000	1501	X	2			2
Glidden Pl northwest of N Hamilton St	117	1	500	383			X	0	0
Canal St east of S Lawrence St	485	4	2000	1515	X	2			2
N Water St south of Adams St	2725	4	2000	-725	X	0			0
AL16 btw S Hamilton St and N Franklin St	2393	4	2000	-393	X	0			0
St Louis St east of N Royal St	331	2	1000	669	X	0			0
Conti St west of N Frankln St	112	1	500	388			X	0	0
AL16 Alt north of Conti St	2490	6	3000	510	X	0			0
N Water St south of Congress St	2052	4	2000	-52	X	0			0
N Lawrence St btw St Louis St and St Michael St	23	1	500	477			X	0	0
St Anthony St west of N Hamilton St	108	2	1000	892			X	1	1
St Louis St west of N Bayou St	254	2	1000	746	X	0			0
N Claiborne St btw St Louis St and St Anthony St	88	1	500	412			X	0	0
Dauphin St btw S Royal St and S Water St	301	2	1000	699	X	0			0
St Francis St west of N Franklin St	263	2	1000	737	X	0			0
Congress St east of N Warren St	218	4	2000	1782	X	2			2
Conti St west of N Frankln St	112	1	500	388			X	0	0
St Louis St west of N Franklin St	238	2	1000	762	X	0			0
N Lawrence St btw St Anthony St and St Louis St	23	1	500	477			X	0	0
Conception St south of Conti St	126	1	500	374			X	0	0
Dauphin St btw N Jackson St and N Joachim St	490	1	500	10			X	0	0
St Francis St btw N Dearborn St and N Warren St	256	2	1000	744	X	0			0
St Joseph St south of St Anthony St	167	2	1000	833			X	1	1
Conti St west of N Frankln St	112	1	500	388			X	0	0

Peak hour volumes based on 10.4% of ALDOT 2016 AADT data.

NELSON
NYGAARD

MEMORANDUM

To: City of Mobile

From: Nelson\Nygaard and Speck & Associates LLC

Date: December 22, 2020

Subject: Pedestrian Crossing Recommendation: S Broad St and Conti St

Overview

S Broad St is planned for construction to begin in the coming weeks for the implementation of Project No. 2018-3005-01, *Broad Street from Canal St to Dr. Martin Luther King Jr. Ave and Beauregard St from Dr. Martin Luther King Jr. Ave to Lawrence St*. As part of concurrent analysis and concept development work with the Downtown Mobile Street Optimization Plan, it was brought to the project team's attention that there is a desire for a crossing at S Broad St and Conti St. Currently people use this location to cross S Broad St despite the lack of a marked crosswalk and uncontrolled crossing on S Broad St. This includes residents of the senior housing to the east who walk to the CVS on the west and use the Conti St intersection to cross. This condition presents safety concerns due to the high volume of traffic along the corridor and the total number of crossing lanes. The current construction planned for this location does not include a marked crosswalk at Conti St. The existing conditions and proposed configuration can be seen below.

Existing aerial and proposed plans for the intersection of S Broad St and Conti

77 FRANKLIN STREET 10TH FLOOR BOSTON, MA 02110 617-521-9404 FAX 617-521-9409
www.nelsonnygaard.com

Due to the safety concerns and community origin-destination patterns showing a demand for crossing with no convenient alternatives, **Nelson\Nygaard and Speck & Associates LLC recommend adding a marked pedestrian crosswalk with bicycle wayfinding at this location.**

Analysis

Along Broad St between Dauphin St and Congress St, the AADT is 17,548 vehicles per day (vpd) based on 2019 counts. The speed limit along S Broad St is 35 mph. Given these characteristics, a pedestrian refuge island would be recommended with any crossing placed at this intersection per FHWA guidance.[1] To include a pedestrian refuge island, the **current construction project's proposed turn pocket would need to be modified**. A comparison of the Broad St left turn pocket queue storage capacity is shown in the table below.

Condition	Number of Turn Lanes	Approx. Queue Storage Capacity (feet)	Approx. Queue Storage Capacity (vehicles)	Queue Storage Reduction from Existing (%)
Existing	2 lanes	**870'** (275' x 2 lanes + 320' upstream thru lane)	35	-
Planned (Project No. 2018-3005-01)	1 lane	320'	13	63%
Memo Proposed (one crosswalk)	1 lane	270'	11	69%
Memo Proposed (two crosswalks)	1 lane	220'	9	75%

The left turns at this location are high at this location, 316 AM, 439 PM peak. Project No. 2018-3005-01 reduces the existing lane capacity significantly, from approximately 35 to 13 vehicles. The Downtown Mobile Street Optimization Plan team did not perform HCM operational analysis at this intersection, however with significant reduction in turning capacity already approved, the team assumes that the planned construction can appropriately sustain the left turn vehicle

[1] US Department of Transportation Federal Highway Administration. July 2018. Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations. <https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf>

demand at this intersection with a capacity of 13 vehicles. **The reduction from 13 vehicles to 9 or 11 vehicles proposed as part of this memo would likely have marginal effects on peak hour operations when compared to the operational effects of the already approved lane storage reduction from 35 to 13 vehicles.**

Recommendation

The proposed configuration is shown below with either two crossings or one crossing at the intersection for both pedestrians and bikes. The design includes a bike box for bikes along S Broad St crossing Conti St to continue west. Either would provide improved pedestrian and bike facilities for the uncontrolled crossing of S Broad St, with varying impacts to the turn pocket capacity as shown in the table above. **The Downtown Mobile Street Optimization Plan team recommends crossings on both legs of Conti St** as is shown on the top figure below, however, if turn pocket capacity is of serious concern, the single crossing on the north side of Conti St shown on the bottom figure would also be appropriate.

Memo Proposed Crosswalks at Conti St (two crossings top, one crossing bottom)