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Connect the 9: Bridging St. Claude for All Users

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Connectthe 9



Photos by Kirk Hunter

Bridging St. Claude for All Users



MURP 6720 | Instructor: Earthea Nance, PhD, PE, CFM | May 9, 2012.

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Earthea Nance, assistant professor in the Department of Planning and Urban Studies at the University of New Orleans.

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Jennifer Ruley, PE, bicycle and pedestrian engineer with the Louisiana Public Health Institute, advisor to the City of New Orleans.

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Thanks also to members of the St. Claude Bridge Safety and Access Committee, who first brought the challenges entailed in crossing the bridge to our attention, and to all who participated in surveys, interviews and who otherwise engaged with us on ways of improving access across the Industrial Canal.

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Introduction



The St. Claude Bridge Safety and Access Committee (SCBSAC) enlisted Connect the 9 (Ct9) to assess the needs and challenges of and options for all users of the St. Claude Avenue Bridge, which connects the Upper and Lower 9th Wards across the Industrial Canal.

Ct9 is composed of Masters in Urban and Regional Planning students from the University of New Orleans who have undertaken this project in conjunction with their Practicum in Urban and Regional Planning. SCBSAC is a group of Lower 9th Ward residents allied with the 9th Ward Center for Sustainable Engagement and Development (CSED), an organization that promotes civic engagement and sustainable redevelopment in the neighborhood.



Figure 1: The Project Area—St. Claude Avenue Bridge. Map courtesy of GoogleMaps and Ct9.

EXECUTIVE SUMMARY

New Orleans ranks among the top cities in the country for walking and bicycling. Higher-than-average rates of active transportation are linked to important factors such as population density, historic neighborhoods, mass transit and park access, and also to the city's low car ownership rates and the many residents who walk and bicycle out of necessity. For these reasons, providing for alternative modes of transportation is essential to promoting equal access to jobs and opportunity. The city's number of cyclists and pedestrians is expanding, and New Orleans has invested significantly in the past few years in bicycling and pedestrian infrastructure. New Orleans' first striped bike lane debuted in 2008 along three miles of St. Claude Avenue, connecting the Marigny, Bywater and Lower 9th Ward neighborhoods. But despite this investment, the St. Claude Avenue Bridge poses a dangerous and unjust obstacle to connectivity for non-motorized users, especially for residents of the Lower 9th Ward who rely on the bridge for access to jobs and amenities on the opposite side of the Industrial Canal in the core of the city. In this report, Ct9 explains these challenges and offers alternatives for making it easier, more inviting and safer to cross the St. Claude Avenue Bridge. As part of our analysis, Ct9 considered the following:

- Existing conditions available to bicyclists and pedestrians in crossing the St. Claude Avenue Bridge;
- The demographics of the Lower 9th Ward, and concentrations of jobs and amenities;
- Existing and potential demand for non-motorized crossing of the bridge;
- Questions of land ownership, responsible agencies and operational jurisdiction related to the bridge and proposed improvements;
- Precedent examples of places that have successfully adapted bridge crossings to improve pedestrian and bicycle access and safety;
- Solutions that facilitate pedestrian and cyclist passage; and
- Costs and benefits of proposed solutions.

EXECUTIVE SUMMARY

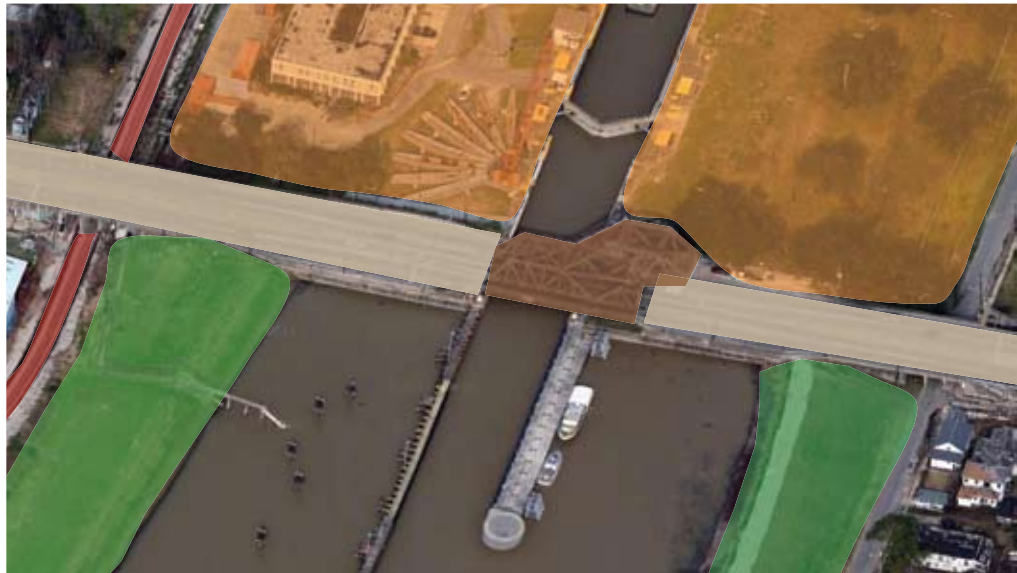
The key finding of this study is that improving accommodations for bicyclists and pedestrians across the St. Claude Avenue Bridge would increase public health, safety and equity.

- The St. Claude Avenue Bridge is the only reasonable option for residents of the Lower 9th Ward without cars to get across the Industrial Canal to the core of the city, yet it is equipped with difficult-to-use and dangerous accommodations for non-motorized users. People crossing by bicycle and foot are unnecessarily vulnerable to accidents and crime, both of which serve as deterrants to walking and bicycling across the bridge. But because commerce, jobs and amenities are concentrated on the Upper 9th Ward side of the Industrial Canal, it is virtually impossible to live in the Lower 9th Ward without crossing regularly.
- Despite the existing access challenges, people are still biking and walking across the bridge in strong numbers. Over the course of a two-day, 20-hour bike and pedestrian count, Ct9 observed almost 500 people crossing the bridge by foot or by bike. Users report they are crossing the bridge for all variety of reasons, including getting to work, school and taking care of other daily necessities.
- The Lower 9th Ward is substantially poorer than the city as a whole and the area around the St. Claude Bridge is characterized by significantly lower car-ownership rates than is true for the city at large. Close to half of residents in the area surrounding the bridge do not own cars.
- The safety and accessibility of bus stops located on the bridge are inadequate. Getting to the stops on the elevated section of the roadway requires the use of steep stairways that fail to meet standards outlined by the Americans with Disabilities Act and are difficult for anyone with mobility challenges or on bike to use. The stops on the bridge are some of the lesser-used of the St. Claude bus line, which is overall one of the best-performing in the Regional Transportation Authority's bus system.
- For the above-stated reasons, providing better accommodations for non-motorized users is in the best interest of public health, safety and equity and could potentially increase bicycling and walking substantially.

WHO IS RESPONSIBLE FOR THE BRIDGE?

Figure 2: Ownership, maintenance and operation of key areas around St. Claude Ave. Bridge. Map courtesy of GoogleMaps and Ct9

Finding | The Port of New Orleans owns and operates the St. Claude Avenue Bridge, but there are seven other primary agencies involved with bridge operations and oversight or that have a vested interest in the immediate project area.



The St. Claude Avenue Bridge is a Port-owned bridge connecting a state highway. However, other agencies have roles in its maintenance and operation (See Figure 2).

■ **The Port of New Orleans** owns and operates the bridge and is responsible for raising and lowering the moveable portion of the bridge to accommodate water-borne traffic. The Port also owns and maintains all lighting structures attached at the top of the bridge and under the bridge, including those found in the Sister Street motor-vehicle tunnel and in the nearby pedestrian tunnel.

■ **The City of New Orleans' Department of Public Works** owns and maintains all streetlights in the vicinity of the bridge that originate at street-level.

■ **The Orleans Levee District** owns and maintains the levees that run perpendicular to and intersect with the bridge along the Mississippi River on either side of the Industrial Canal.

■ **The Army Corps of Engineers** owns and maintains the land on the lakeside of the bridge that surrounds the Industrial Canal Lock.

■ **The Harbor Police, 5th District New Orleans Police Department and the Levee District** are responsible for patrolling the bridge and its vicinity.

■ **Norfolk Southern Railroad** operates a railroad on the Bywater side of the St. Claude Avenue Bridge as part of its Alabama Regional Railroad.

■ **The Louisiana Department of Transportation and Development** maintains St. Claude Avenue on either side of the bridge.

METHODOLOGY

Ct9 consulted a variety of existing sources for information related to the bridge, its surroundings and current traffic patterns. These sources included:

Source	Information gathered
2010 U.S. Census	Demographics of the study area
Port of New Orleans	Bridge-opening logs
Louisiana Department of Transportation and Development	Bridge vehicle-traffic counts
Regional Planning Commission	Bicyclist and pedestrian crash statistics
New Orleans interactive crime maps and 5 th District of the New Orleans Police Department	Violent crime statistics
Greater New Orleans Community Data Center	Jobs-distribution statistics
New Orleans Regional Transit Authority	Ridership statistics for the No. 88 (St. Claude) bus line

Ct9 also generated original data that helped shape our recommendations and conclusions. Means of collecting these data included:

- A **survey** designed to gauge usage patterns and concerns related to the bridge, developed and distributed in conjunction with Tulane University Masters in Public Health Candidate Shaila Parker and representatives of SCBSAC.
- A **bicycle and pedestrian count**, conducted over two, 10-hour periods in March, 2012.
- A **land-use survey** of the territory included within a half-mile radius of the bridge.
- **Site visits** and bridge-user **interviews**.
- **Meetings with stakeholders**.
- Research into **precedent examples of drawbridge conversion** projects designed improve non-motorized connectivity, two of which are summarized in this report as case studies.

EXISTING CONDITIONS



Bridge Background

The St. Claude Avenue Bridge is a drawbridge built in 1919 that spans New Orleans' Inner Harbor Navigational Canal, more commonly known as the Industrial Canal. It connects St. Claude Avenue, a state highway and a designated freight truck, bus and bicycle route that is an important east-west corridor and evacuation route for residents of the Lower 9th Ward, Holy Cross and St. Bernard Parish. The bridge also serves as a primary point of access to the core of the city for residents of the Lower 9th Ward. It is the only reasonable option available to residents crossing the Industrial Canal without a car. The next closest bridge across the canal, the Claiborne Avenue Bridge, is off-limits to non-motorized users. The Florida Avenue Bridge provides accommodations for cyclists and pedestrians but is located more than a mile away, requiring would-be bicyclists and pedestrians to travel through a relatively desolate area and more than three miles out of their way to get to the other side of the 400-foot-wide canal.

The bridge is owned and operated by the Board of Commissioners of the Port of New Orleans. It was constructed by the Bethlehem Steel Bridge Corporation as a combination railway and automobile bridge and later included a streetcar connection, though the streetcar line that once occupied the center of the bridge was long ago removed to accommodate four lanes for motor-vehicle travel (Amdal, 2011).

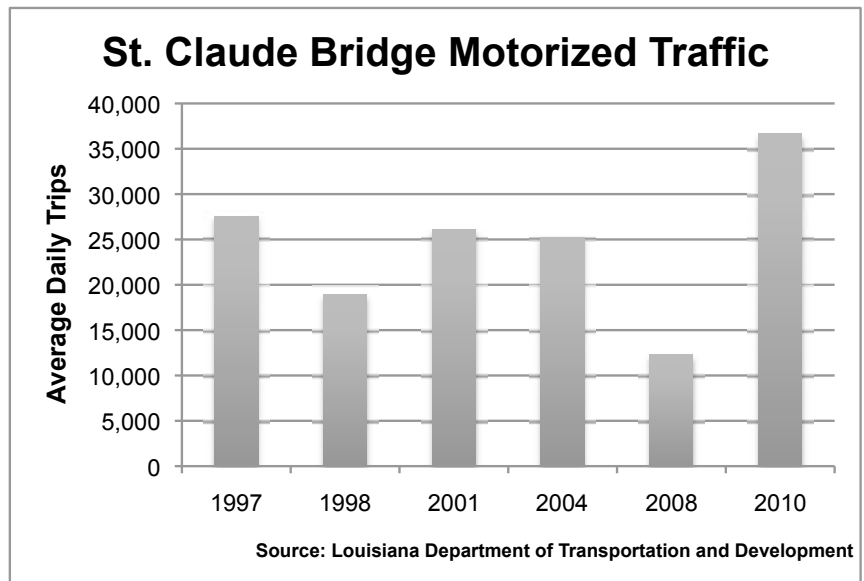
The bridge stretches between Poland Avenue in the Upper 9th Ward and Reynes Street in the Lower 9th Ward. It spans roughly 137 feet with a deck width of 24 feet (Bridge Hunter). One lane in each direction passes under the truss of the bridge and one lane passes alongside the truss. A tunnel runs beneath the bridge at Sister Street on the Lower 9th Ward side of the bridge that allows motorized traffic to pass north and south of the structure.

Finding | The St. Claude Avenue Bridge is an old but necessary piece of transportation infrastructure.

EXISTING CONDITIONS

Auto Domination

Although the St. Claude Bridge was built at a time when cars were not nearly as commonplace, the bridge today is dominated by auto and truck traffic. Average daily trips across the bridge by motorized vehicles stood at 36,644 in 2010, a 40.5 percent increase from the 26,078 average daily trips recorded in 2001 (Louisiana Department of Transportation & Development, 2010).



Finding | As of the most recent available count, motorized vehicle trips across the bridge were at the highest level in almost a decade.



Figure 3: The drawbridge opening to allow a vessel through. Photo courtesy Chris Ganger, The Times-Picayune

Well-Used Waterway

The Inner Harbor Navigational Canal is a 400-foot wide, 5.1-mile long, 30-foot deep waterway connecting the Mississippi River and the Gulf Intracoastal Waterway and Lake Ponchartrain. The canal forms the dividing line between the Upper and Lower 9th Wards and between Gentilly and New Orleans East.

The moveable portion of the St. Claude Bridge is raised and lowered on signal from vessels moving through the canal. The Port is not authorized to open the bridge during rush hour (weekdays, 6:30 to 9:30 a.m. and 3:30 to 5:45 p.m.) or on federal holidays. In February 2012, the latest full month for which figures are available, the drawbridge was opened 1,041 times, according to hand-written logs provided by the Port.

Finding | The bridge is raised frequently to accommodate canal vessels.

EXISTING CONDITIONS



Figure 4: Narrow pedestrian paths run along both sides of the bridge. Photo courtesy of Ct9.



Figure 5: Resident descending stairs with his bicycle. Photo courtesy of Ct9.

Bicycling Across the Bridge is Dangerous

In 2008, the right lanes of the bridge running in either direction were marked as shared lanes, designed to accommodate motorized vehicles and bicyclists. These shared lanes connect with the 3.1-mile bicycle lane that runs along St. Claude Avenue. It is important to note that the shared bicycle/auto lane is the same lane designated for freight traffic and is the lane used by the No. 88 bus operated by the New Orleans Regional Transit Authority.

Yellow signs affixed to lampposts running along the bridge remind motorists to “share the road” with bicyclists, but sharing lanes is problematic even for conscientious motorists and bicyclists. The bridge roadway consists of narrow travel lanes ranging from 10’6” to 11’ wide (Personal communication, Randy Songy, Port of New Orleans, 26 April, 2012). There is no shoulder. Even so, these lanes are well-used by cyclists, who often assume significant risk in crossing the bridge.

Pedestrian paths running along the river- and lakesides of the bridge are also frequently used by bicyclists, but these paths are less than ideal for bicyclists or pedestrians. Passageways that narrow to less than three feet wide make crossing even by a single user difficult. Bicyclists tend to dismount and walk their bikes across the narrowest section of the path, which is too skinny even for two pedestrians to use comfortably at a time.

EXISTING CONDITIONS

The primary access points to these paths are four staircases, split between the river- and lakesides of the bridge, on the Upper and Lower 9th Ward ends. These stairways are accessible from the street that runs parallel to the bridge. They are steep, comprising more than 30 steps, and out of compliance with the Americans with Disabilities Act. They not only pose substantial obstacles for the mobility-challenged, but also for cyclists who lug their bikes up and down the stairs to avoid the dangers of the shared roadway. The bases of these staircases tend to be littered with debris, including gravel and glass that could wreak havoc on bicycle tires.

Another option for gaining access to the path is to climb to the unpaved trail on top of the levee on the Holy Cross side of the bridge. The unpaved levee at the Bywater end of the bridge is also commonly used, though getting to this levee requires crossing railroad tracks and climbing through a hole ripped in a chain-link fence.

Some cyclists use both the pedestrian path and the shared lane to cross the bridge. Cyclists following this route from Holy Cross follow the levee to the riverside pedestrian path then head west over the movable portion of the bridge before biking onto the roadway. Bicyclists who choose this course are often seen crossing four lanes of traffic to continue across the bridge in the direction of auto traffic to the Upper 9th Ward. Others take a more direct trajectory, riding west against auto traffic on the eastbound shared lane of the bridge. This is illegal and dangerous.

Finding | Bicycling across the bridge is dangerous but many people do it anyway.

EXISTING CONDITIONS



Figure 6: Some pedestrians and cyclists cross under the bridge on the Lower 9th Ward side through the pedestrian tunnel located near Sister Street. Photo courtesy of Ct9.



Figure 7: Orange plastic fencing was installed as a temporary measure on bridge railings to prevent accidents. Photo courtesy of Ct9.

Walking Hazards

People crossing the St. Claude Bridge on foot gain access to the pedestrian path either by taking the stairways located on the river- and lakesides of the bridge or by climbing to the top of the river levees. These stairways are steep and equipped with substandard railings composed of horizontal bars with about 1.5 feet of space between them. In December 2008, a 3-year-old using the stairs with her mother slipped and fell through the railings, dropping 12 feet to the concrete below (Carr, 2008). After residents complained, sections of stairway and bridge railing were draped in orange plastic mesh that was designed as a temporary fix, but the mesh is still in place.

After crossing the bridge along the path, pedestrians dismount by the staircases or by walking along the levees. The stairways deposit users into dimly-lit, desolate areas that leave them unnecessarily susceptible to crime. One man who lives in the Lower 9th Ward told us that his sister calls him every time she crosses the bridge on foot. She asks him to come out and meet her in case someone suspicious is waiting at the bottom of the stairs. Residents report that a woman was recently abducted while crossing the bridge and raped in an abandoned home in the Lower 9th Ward.

EXISTING CONDITIONS

Some pedestrians and cyclists cross under the bridge on the Lower 9th Ward side through the tunnel at Sister Street designed for motorized traffic. There is also a pedestrian tunnel running under the bridge. Entrance to the pedestrian tunnel is located at the base of the stairways. This tunnel has a low ceiling, is dimly-lit and narrow. The walls are scrawled with graffiti and the floor is strewn with discarded clothing and other trash. Residents and public officials alike worry that this particular tunnel, which lies mostly out of view of passersby, provides an ideal space for engaging in illicit activities and could serve as a hiding place for anyone intent on victimizing a passer-by.

Finding | The safety of this area needs to be improved for pedestrians.

EXISTING CONDITIONS

In 2002, Louisiana was named the third most lethal state for biking. New Orleans was designated the most dangerous biking city in the state, accounting for 49 percent of all bicycle crashes statewide (Cohen, 2011).



Figure 8: Bicyclists are encouraged by existing facilities to use the bridge in risky ways. These cyclists are crossing the bridge's four traffic lanes to ride in the direction of traffic into the Upper 9th Ward. Photo courtesy of Ct9.

Existing Conditions Lead to Accidents and Crime

Some of the chief concerns cited by regular users of the St. Claude Bridge are the threats of pedestrian- and bicycle-related accidents and crime on and around the facility. The design of existing bicycle and pedestrian infrastructure exacerbates both of these problems.



Figure 9: This white "Ghost Bike" was placed near the St. Claude Bridge in memory of Byron Orlando Sandoval Lope, a cyclist killed while crossing the bridge on his bike 2011. Photo courtesy of David Eber.

EXISTING CONDITIONS

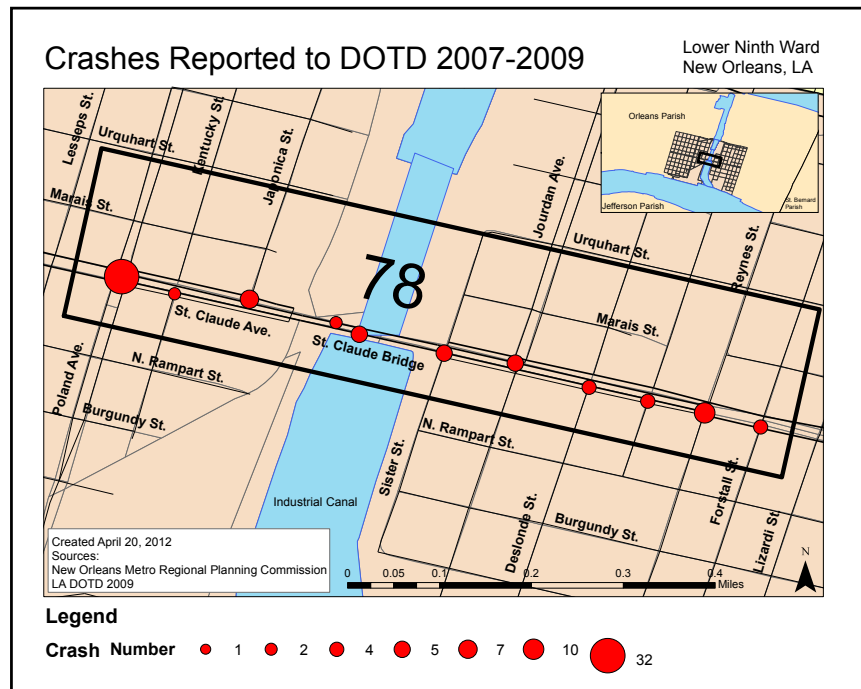


Figure 10: Crashes Reported to DOTD 2007-2009. Sources: New Orleans Metro Regional Planning Commission. Map courtesy of Ct9.

Accidents

The risk entailed in crossing the St. Claude Avenue Bridge on foot or by bike is reflected in crash data provided by the New Orleans Regional Planning Commission. Figure 10 depicts crashes between motorized vehicles and bicyclists or pedestrians in the vicinity of the St. Claude Bridge reported to the Louisiana Department of Transportation and Development between 2007 and 2009, the most recent period for which these data are available. During this period, 78 crashes were reported, occurring all along the bridge.

In September, 2011, the city's lone recorded bicycle-related fatality for the year occurred when Byron Orlando Sandoval Lopez, 42, was cycling home after dark on the St. Claude Bridge and was hit from behind by a minivan that flung him into moving traffic, where he was stuck by two more vehicles (Williams, 2011). Existing facilities encourage bicyclists to cross the bridge in improper and risky ways and can prove dangerous even for those following the letter of the law.

EXISTING CONDITIONS

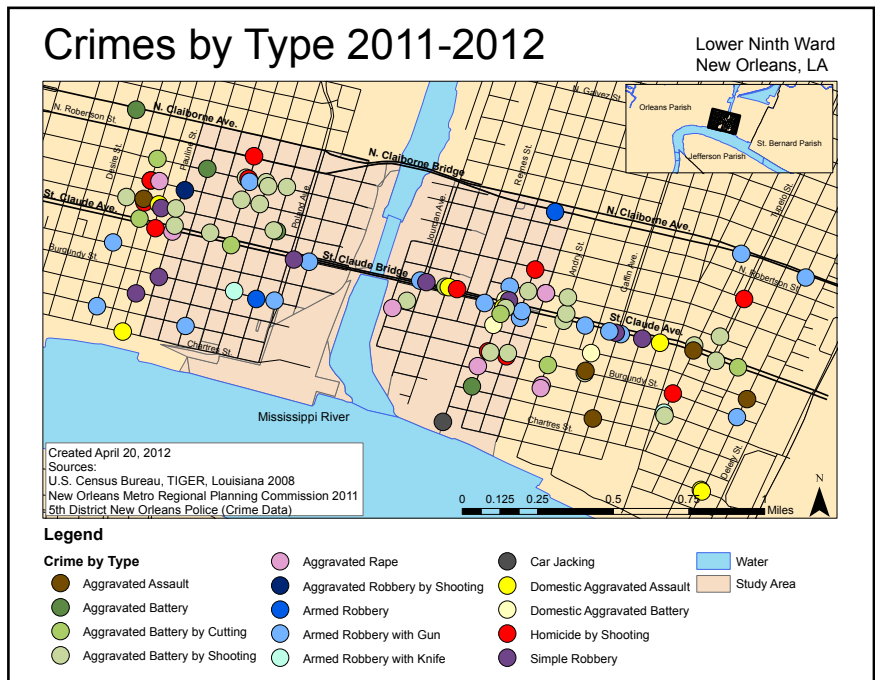


Figure 11: Crimes by Type 2011-2012. Sources: U.S. Census Bureau, TIGER, Louisiana 2008 New Orleans Metro Regional Planning Commission 2011.

Crime

The city's online crime maps show that six violent crimes, including aggravated assaults and armed robbery, occurred in the vicinity of the bridge over the year beginning March 1, 2011. Violent crime statistics provided by the 5th District of the New Orleans Police Department for a larger territory surrounding the bridge (See Figure 11) paints an even more troubling picture, showing many more violent crimes.

In light of the crime threat, the Port of New Orleans has proposed closing off the pedestrian tunnel that runs beneath the bridge, an idea that was met with opposition from area residents who feared the closure would further impede pedestrian and bicyclist access. Other residents believe closing off the tunnel would be in the best interest of public safety. According to Port officials, maintaining adequate lighting in the pedestrian and motor-vehicle tunnels at Sister Street is consistently challenging. They say they are working on installing bullet-proof lighting fixtures in these passageways to replace those that are consistently shot-out by gunfire.

One hundred twenty-eight people participated in a survey distributed online and in paper form in conjunction with this

EXISTING CONDITIONS

project (See Appendix B for more information on survey questions, methodology and findings) designed to gauge bridge usage patterns and concerns about non-motorized crossing of the St. Claude Bridge. Fear of crime and accidents was frequently cited by respondents. Of the 71 participants who answered a question about how safe they felt crossing the bridge by foot or by bike, 73 percent said they felt “a little” unsafe or “very” unsafe doing so during the day, 22 percent said they felt “slightly safe” and only 1 percent of respondents said they felt “very safe” when crossing during the day. Asked how safe they felt crossing by foot or bike at night, 89 percent said they felt “a little” or “very” unsafe, 5 percent said they felt “slightly” safe and 1 percent said they felt “very” safe.

Survey takers were asked to list their top three concerns related to crossing the bridge by foot or by bike. Of the 75 participants who responded to this question, the top concern cited was inadequate bicycle and pedestrian facilities. Specifically, respondents noted the lack of dedicated bike lanes, speeding vehicles, poor lighting, narrow roadway lanes and walkways and poor road conditions. The threat of crime was the second most-common concern listed.

Finding | Walkers and bicyclists are at risk of accidents and violent crime simply by crossing the bridge and fear of accidents and crime serves as a deterrent to non-motorized crossing.

EXISTING CONDITIONS



Figures 12 (above) - 13 (right). Existing conditions in the vicinity of the bridge. Photos courtesy of Connect the 9



Bicyclists and Pedestrians Frequently Use the Bridge

Despite the threats of accidents and crime, people continue to cross the St. Claude Bridge by foot and by bike in strong numbers. As part of our effort to gauge bridge usage rates and patterns, representatives of Ct9 and SCBSAC conducted two, 10-hour pedestrian and bicycle counts on the bridge in March 2012. During this period, close to 500 people crossed the bridge by foot or by bike. Further details on methodology and findings can be found in appendix (x).

Key findings from the bicycle and pedestrian counts:

- Over the course of the two sessions, a total of 479 people were observed crossing the bridge by foot or by bike.
- Two hundred seventy-one people were observed crossing by bicycle.
- Two hundred eight pedestrian crossings were recorded.
- Men were observed crossing the bridge by foot or bicycle far more often than women.
- Among the pedestrians recorded, 72.4 percent were men and 27.6 percent were women.
- Bicyclists were even more likely to be male. Men represented 77 percent of all bicyclists counted.

EXISTING CONDITIONS

- Ten percent of non-motorized bridge users were children, defined as anyone appearing to be under 18 years old. Of this group, only one person was on bicycle.
- Bicyclists were the predominant non-motorized users of the bridge, responsible for 57 percent of non-motorized trips.
- The path chosen by bicyclists varied substantially according to gender. More than 60 percent of all bicyclists used the pedestrian path to cross the bridge, but male cyclists were more likely than female cyclists to use the roadway.

Delving further into the gender breakdown of usage patterns, Ct9 observed that:

- More than 37 percent of all bicyclists counted were men who used the roadway to cross the bridge.
- Almost 43 percent of all bicyclists counted were men who used the pedestrian path.
- Almost 6 percent of all bicyclists counted were women who crossed using the roadway
- More than 17 percent of all bicyclists counted were women who used the pedestrian path.
- No children were seen bicycling across the bridge roadway.

Finding | Walkers and bicyclists are at risk of accidents and violent crime simply by crossing the bridge and fear of accidents and crime serves as a deterrant to non-motorized crossing.

EXISTING CONDITIONS



Why are People Crossing by Foot and by Bike?

One of the top reasons cited by survey respondents for crossing the bridge by foot or bike was taking care of day-to-day necessities, such as getting to and from work and school and buying groceries. Seventy-three survey respondents (57 percent of survey-takers) identified reasons they crossed the St. Claude Bridge by foot or by bike. The most frequently-cited reason, named by 32 percent of respondents who answered this question, was getting to social events, including visiting friends and family, attending parades, and going to hear music. Almost 28 percent said they crossed the bridge by foot or bike to get to work. Sixteen percent crossed by non-motorized means to get food or groceries, 14 percent for exercise reasons, and almost 3 percent did so to get to and from school.

Finding | The St. Claude Bridge is used by well-used by non-motorized travelers for a variety of purposes, including getting to work and school and buying groceries.

EXISTING CONDITIONS



Figure 14. The bus stop on the elevated portion of the bridge near Jourdan Avenue. Photo courtesy of Ct9.

Inadequate Bus Stops

The No. 88 bus operated by the RTA picks up and drops off eastbound passengers from a stop on the elevated portion of the bridge located near Jourdan Avenue. This eastbound stop is the first in the Lower 9th Ward, with the next closest four blocks away at Forstall Street. The westbound stop is located on the elevated portion of the bridge at Sister Street. Getting to these transit stops requires passengers to climb a steep stairway to a small waiting platform adjacent to the elevated roadway. It would be easy for someone waiting on this tiny platform measuring roughly 5 feet by 5 feet to trip and fall into vehicular traffic.

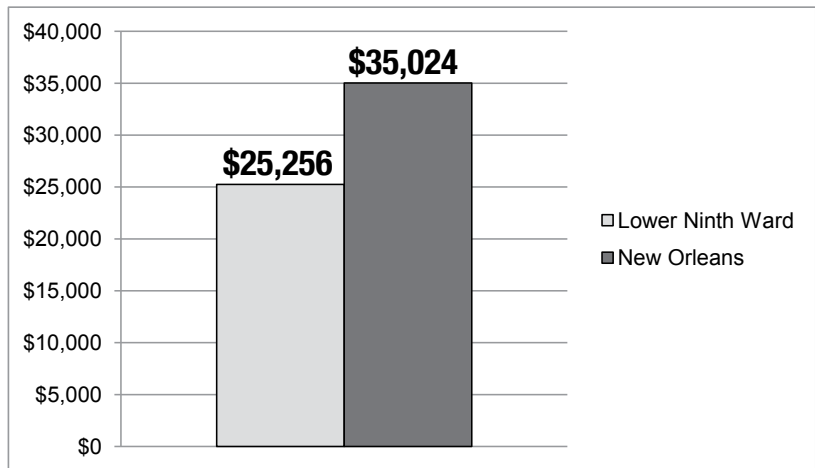
The No. 88 bus is one of the best-performing in the RTA system, in terms of its relatively high demand and comparatively low subsidization rate (“2010 performance report,” 2011). However, the stops on the St. Claude Bridge are among the lesser-used of the line. An average ridership tally taken over several days in the summer of 2010 shows that roughly 10 people made use of the Jourdan Avenue stop each day, either boarding or disembarking there. In contrast, more than 100 passengers used the stop at St. Claude Avenue and Louisa Street.

Finding | The safety and accessibility of the bus stops are far from ideal and need improvement.

EXISTING CONDITIONS

Finding | The area surrounding the St. Claude Bridge is poorer and characterized by a greater percentage of black residents and lower car-ownership than is the city at-large. These three factors would seem to indicate a substantial population of potential pedestrians and bicyclists.

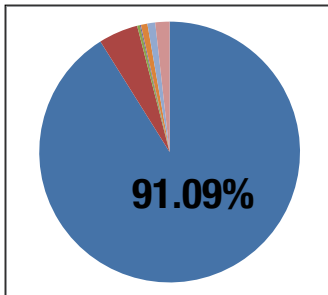
Median Household Income for the Lower 9th Ward and New Orleans (2010)



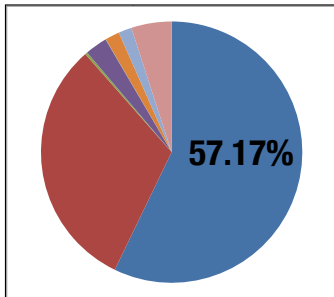
The Neighborhood

The residential composition of the Lower 9th Ward helps to explain why people continue to walk and bike across the St. Claude Bridge in strong numbers despite the existing challenges to doing so. The neighborhood is significantly poorer than is the city as a whole. Median household income as of the 2010 Census stood at \$25,256, almost \$10,000 less than the citywide median household income of \$35,024. The Lower 9th Ward is composed of a substantially larger percentage of black residents than the rest of the city. About 91 percent of the neighborhood's residents are black, while just more than 57 percent of city residents are black (Census, 2010, Summary File, Table P1). The rate of car ownership is also substantially lower for the area surrounding the bridge than it is for the city at large. Almost half (46 percent) of residents living within a five-mile radius of the St. Claude Bridge (this territory encompasses the Lower 9th Ward, a portion of Arabi in St. Bernard Parish, and the Bywater, St. Roch, Florida/Desire and Marigny neighborhoods) do not own cars (U.S. Census Bureau, 2006-2010 American Community Survey). Citywide, 32 percent of residents do not own cars. Nationally, low income and low car ownership rates have been found to be factors that increase the frequency of bicycling and walking as modes of transportation (Alliance for Biking & Walking, 2012). Although up-to-date data showing who exactly is cycling in New Orleans are limited, crash data compiled by the Regional Planning Commission before Hurricane Katrina suggests that many of the city's cyclists are low-income, black men who don't own cars and rely on bikes to get around (Cohen, 2011).

Population by Race for the Lower 9th Ward (2010)



Population by Race for New Orleans (2010)



- African American
- White only
- American Indian and Alaska Native alone
- Asian alone

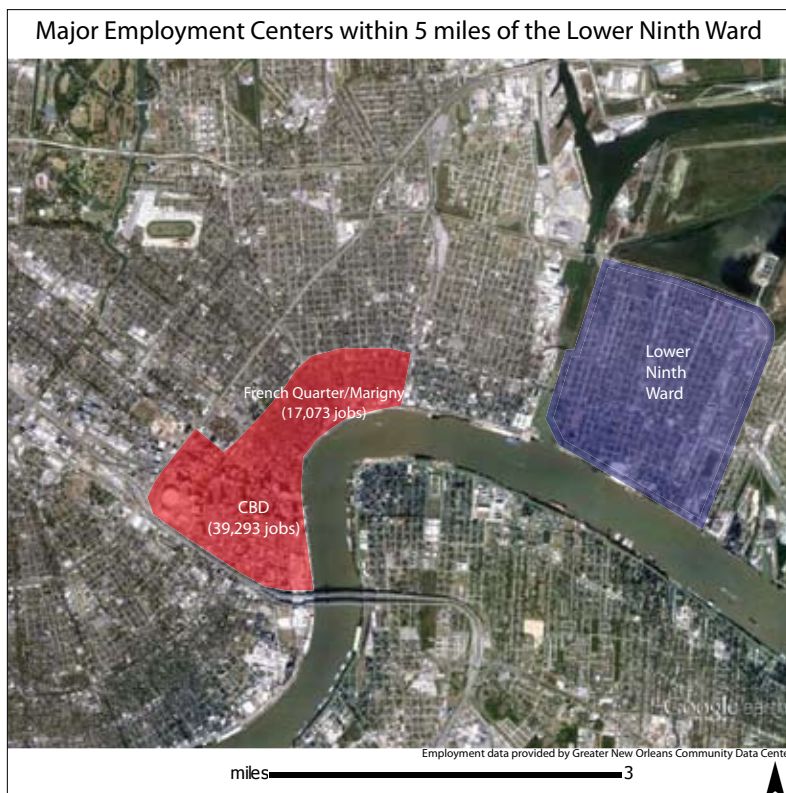
EXISTING CONDITIONS

Jobs and Amenities

In looking at the land use of the area surrounding the St. Claude Bridge, it is clear that commerce, jobs and amenities are concentrated on the Upper 9th Ward side of the Industrial Canal. Maps and additional information on land use, zoning and topography for this area can be found in appendix x. St. Claude Avenue serves as the epicenter of commercial activity for the immediate area on both sides of the bridge, with most of the activity in the immediate area clustered on the Bywater side of the avenue.

An analysis of jobs distribution by the Greater New Orleans Community Data Center shows that one of the highest concentrations of employment in the metropolitan area is found in New Orleans' Central Business District and French Quarter, less than five miles from the Lower 9th Ward. Jobs found in these

sections of the city include a broad range of positions, including hospitality industry jobs that do not necessarily require a high level of educational attainment. The GNOCDC analysis also shows that there are relatively few jobs to be had in the Lower 9th Ward, meaning residents of this neighborhood likely travel elsewhere for employment.



Finding | Commercial activity, amenities and jobs are concentrated on the Upper 9th Ward side of the Industrial Canal, making it difficult to live in the Lower 9th Ward without crossing the St. Claude Bridge regularly.

Figure 15: Major employment centers within 5 miles of the Lower Ninth Ward. Map courtesy of Connect the 9.

CASE STUDIES

Ct9 looked at examples from across the country of ways that communities have improved access for non-motorized users across navigable waterways. The following case studies, which examine projects in Portland, OR and Alameda, CA, helped inform design proposals and final recommendations.

The Morrison Bridge bike and pedestrian path | Portland, OR

Background

The Morrison Bridge is a drawbridge connecting the east and west sides of the Willamette River in Portland, Oregon. It is one of ten bridges that cross the river in the city and one of five bridges that connect to Portland's downtown.

The bridge was built in 1958, a time when cars were king and little thought was paid to the need for pedestrian and bicycle facilities (Neves, 2010). It was constructed with three vehicular lanes running in each direction and only minimal accommodations for cyclists and pedestrians. Until recently, the only accommodation for non-motorized crossing was a 5-foot-wide sidewalk that was even narrower at points with no barricade separating pedestrians and cyclists from vehicular traffic.

The State of Active Transportation in Portland

Portland has long been recognized as a highly-walkable place, thanks to its gridded streets, compact development pattern, low crime rate, scenic landscape and architecture and mixed-use neighborhoods (McGovern, 1998). In 2009, Prevention Magazine rated the city 9th-best in the country for walking, noting that for more than a decade the City Council has solicited input into transportation matters from a Pedestrian Advisory Committee composed of city residents ("25 best walking cities," 2009).

Portland is also hailed as one of the top cities in the country for bicycling. The city's 6 percent bike-commuter rate is the highest in the nation among cities with populations greater than 250,000, according to the 2010 American Community Survey. Nationally, less than 1 percent of Americans ride their bikes to work (Rose, 2010).

In the 1980s and early 90s, Portland was just beginning to make serious investments in bike-oriented infrastructure and its ridership rates were similar to those found in the rest of the country (Geller,

The basics | A protected pedestrian and bicyclist path over a drawbridge that connects the east and west sides of a city.

Cost | \$1.9 million.



CASE STUDIES

2008). A pronounced increase in cycling coincided with new bikeways and other accommodations added in those decades (Geller, 2008).

Morrison Bridge Bicycle and Pedestrian Improvements

In the 1990s, demand grew for the creation of safer and more convenient options for non-motorized transportation across the Morrison Bridge. A proposal to add a new bicycle and pedestrian path was recommended in a 1994 study of Willamette River bridge accessibility (Multnomah County, Ore., 2012). That same year, county commissioners voted to include the project in the county's capital improvement plan (Multnomah County, Ore., 2012). Interest in the project grew when, in 1998, temporary pedestrian and cyclist crossings were installed while work was being done on the bike and pedestrian path on the Hawthorne Bridge, located about a half-mile away (Cogen, 2010). Public demand for making this temporary infrastructure permanent, combined with bicycle and pedestrian traffic congestion on other bridges, caused residents, politicians and planners to take note (Cogen, 2010). As cycling advocate Carl Larson put it, the pre-existing bike and pedestrian crossing was "an insult to anyone not in a car." Getting around interstate entrance and exit ramps on the east side often required cyclists to lug bicycles up and down stairways (Rose, 2010a). Adding urgency to the cause were the deaths in 1997 and 2004 of a cyclist and pedestrian, respectively. Each was killed after being struck by vehicles while attempting to cross the Morrison Bridge (Rose, 2010b).

After more than a decade in planning, construction began in March 2009 on a \$1.9 million bike and pedestrian path funded through federal and county sources that opened to the public about a year later. Multnomah County received \$100,000 in federal transportation grant money for preliminary engineering and planning on the project (Morrison Bridge Bike/Pedestrian Improvement Project). The county and City of Portland each contributed another \$75,000 toward plan development. Construction was funded by an additional \$1.5 million in federal transportation money (Morrison Bridge Bike/Pedestrian Improvement Project). The stated goal of the project was improving safety for all bridge users while minimizing traffic flow impact (Multnomah County, Ore., 2010). The project maintained the six traffic lanes on the bridge, but lane width was narrowed from 13 feet to 11 feet (Multnomah County, Ore., 2010).

CASE STUDIES

The new bicycle and pedestrian path is 15-feet wide and comprises two lanes running along the south side of the bridge. It is constructed on a raised concrete curb, except on the lift span portion of the bridge, where it runs at the same level as traffic and is composed of fiber-reinforced polymer (Multnomah County, Ore., 2010). It is separated from vehicular traffic by a two-foot tall concrete crash-protective barricade (Multnomah County, Ore., 2010).

Project Impacts

The Morrison Bridge is the busiest in terms of overall traffic in the county, carrying an estimated 50,000 trips each day (Rose, 2011). But prior to the addition of the new bike and pedestrian path, the bridge had the lowest bike and pedestrian travel usage of the five downtown bridges open to bicyclists (Multnomah County Ore., 2010). It remains to be seen to what degree this has changed in light of the new infrastructure. Multnomah County spokesman Mike Pullen said it seems as though more people are bicycling, walking and running over the bridge, though he was not aware of any official counts performed since the new path opened in 2010 that might offer some empirical assessment of the project's effects (Personal communication, 12 March, 2012). At the same time, the facility does not appear to have significantly diminished the number of people biking or walking over the other bridges across the river. Those bridges saw bicycle trips grow by 4 percent in 2011 compared with the year before (Portland Bureau of Transportation 2011 Bicycle Counts Report, 2012). "Over time," Pullen said, "we believe the Morrison bike and pedestrian path will relieve congestion on the sidewalks of the Hawthorne Bridge, immediately to the south" (Personal communication, 12 March, 2012).

Lessons learned | Retrofitting an existing auto-dominated drawbridge with protected bicycle and pedestrian facilities can be achieved relatively inexpensively and can increase rates of non-motorized transportation while minimizing conflicts with automobiles.

CASE STUDIES

Bay Farm Island Bicycle and Pedestrian Drawbridge | Alameda, CA

Background

Alameda is an island city of approximately 74,000 residents located near Oakland, California in the San Francisco Bay (U.S. Census, 2010). The city spreads across Alameda and Bay Farm islands, which are separated by the Oakland Estuary. Alameda Island is the hub of the city, with the smaller Bay Farm Island accounting for roughly 6,000 residents (Virenda Patel, Personal communication, 27 March, 2012). The two islands have long been connected by the Bay Farm Island Bridge, which was originally constructed in 1854 and has been rebuilt multiple times since (Alameda County Public Works Agencyb). The existing facility is a drawbridge built in 1952 that is owned and maintained by the State of California, operated by Alameda County and is part of California Highway 61. (Alameda County Public Works Agencyb).

The Bay Farm Island motor vehicle drawbridge is roughly 1,000-feet long. It consists of a 26-foot-wide roadway used by motorists and a 5-foot pedestrian sidewalk running along the west side (Alameda County Public Works Agencyb, and City of Alameda, 2009). More than 40,000 vehicles cross the bridge every day (Alameda County Public Works Agencya).

The State of Active Transportation in Alameda

Alameda stresses the role bicycling and walking play in its transportation-planning goals. The city has developed bicycle and pedestrian master plans, and an estimated 1.3 percent of Alameda City residents biked to work in 2010 (League of American Bicyclists, & Bike Alameda, 2010).

The Bay Farm Bicycle and Pedestrian Bridge

Construction began in 1993 on a bicycle and pedestrian bridge to connect Bay Farm and Alameda islands. The Bay Farm Island Bicycle and Pedestrian Bridge was completed in 1995 (Alameda County Public Worksb). It runs alongside the vehicular bridge, and like that bridge is operated by Alameda County (Alameda County Public Works Agencya). The wooden bridge, which consists of a 14-foot-wide, 750-foot long, two-way path designed for bicyclists, pedestrians and vehicles for the handicapped, is the only bicycle



The basics | A bicycle and pedestrian drawbridge dedicated to non-motorized users that connects an island city.

Project cost | \$3.5 million (\$5.5 million, adjusted for inflation).

Length | 750 feet
Inflation-adj. cost/foot: \$7,333

CASE STUDIES

and pedestrian drawbridge in the country, according to county officials (Alameda County Public Works Agencyb). Openings of the drawbridge portion of the bicycle and pedestrian bridge coincide with openings of the motor vehicle bridge, which is opened for water-borne vessels approximately 360 times per year (Alameda County Public Works Agencyb). Both drawbridges are controlled by the same operator. (Alameda County Public Works Agencya).

The pedestrian and bicycle bridge was built in coordination with the City of Alameda and the State of California with much of the total \$3.5 million price tag covered by the federal government (Alameda County Public Worksb). Adjusting for inflation, the cost of the bridge in today's currency would be close to \$5.5 million. The California Department of Transportation and the City of Alameda are responsible for bridge maintenance (Alameda County Public Worksb).

Information on bike and pedestrian bridge usage is hard to come by. Representatives from the city, county and CALTRANS (California's Department of Transportation) did not know of any existing bicycle and pedestrian count data. Anecdotal accounts suggest that the bridge is well-used by recreational users and bicycle commuters. Virenda Patel, who works for the City of Alameda, said that weekday mornings during the school year, a steady stream of school-aged children can be seen crossing the bridge. These students live on Bay Farm Island and use the facility to get to elementary and middle schools on the main island (Personal communication, 27 March, 2012). Kim Kay, who bikes to work using the bike and pedestrian bridge, estimates students are responsible for about a third of the bridge's traffic. "It is well-used," she said. "On the contrary, I rarely see cyclists or pedestrians on the bridge that is meant for cars. There is a sidewalk on one side, but it is usually empty" (Personal communication, 28 March, 2012).

Lesson learned | Building a drawbridge designed specifically for bicyclists and pedestrians is potentially more expensive than retrofitting an existing facility, but is an option that has proven viable elsewhere in the country.

RECOMMENDATIONS

Recommendations for Immediate Action

The dangerous conditions confronted by non-motorized users of the St. Claude Bridge are unacceptable. Ct9 has identified several very basic measures that should be taken immediately to begin to address problems of safety, access and equity. These are stop-gap measures that require relatively little financial investment and no significant structural modification of the bridge. These recommendations should not be construed as long-term solutions to the serious problems plaguing the bridge that will ultimately require more extensive investment.



Shared lane, Salt Lake City, UT

Photo courtesy of Dan Bergenthal, Salt Lake City Department of Transportation

RECOMMENDATIONS

Lane Striping

- Add more prominent shared-lane markings to the right lane of the bridge running in either direction, potentially painting this lane a different color to notify drivers of bicyclists' right to occupy the lane.

Signage

- Add new signs that clearly indicate to bicyclists and drivers that the right lane of the bridge is a shared lane that may be fully-occupied by cyclists, and that the left lane across the bridge is off-limits to bike traffic.
- Add signs advertising state law that requires drivers to maintain a three-foot buffer between their vehicles and bicyclists.

Lighting

- Add new pedestrian-scale lighting along the bridge, in tunnels and at bus stops and prioritize maintenance of all lighting along the bridge and on surrounding streets to make travel safer for cyclists, pedestrians and drivers.

Railings

- Replace or retrofit railings on stairs and walkways to bring them up to code.

Grating

- Infill the grated surface on the moveable portion of the shared roadway lane to improve maneuverability and safety for bicyclists and motorcycle and scooter riders.

Trash

- Install new trashcans and recycling bins to help discourage the large amounts of litter strewn on and around the bridge.

RECOMMENDATIONS

Alternatives for Permanent Fixes

Ct9 considered several more-extensive alternatives for alleviating many of the hazards associated with crossing the St. Claude Bridge by foot or by bike. Two of these options are discussed here.

1. *The New Bridge Alternative*

The New Bridge Alternative involves construction of a separate drawbridge across the mouth of the Industrial Canal for use by bicyclists and pedestrians exclusively. This bridge would connect to a proposed riverfront levee trail in Holy Cross and tie in with the Reinventing the Crescent riverfront park project under construction in the Upper 9th Ward. The bridge would be accessible via Deslonde Street in Holy Cross and via North Rampart Street in Bywater and from the levees on either side of the canal.

The proposed location of this alternative could present some challenges. The new bridge could obstruct the passage of water vessels turning into the canal, though this problem could potentially be alleviated by building the bridge closer to the existing St. Claude Avenue Bridge. The location of this alternative could also raise new equity concerns in that it may be viewed by Lower 9th Ward residents as privileging the more affluent Holy Cross section, which lies along the river closest to the proposed bridge. Based on precedent examples, this alternative would also likely be the most expensive of the options considered. (See Appendix G for renderings of this design).

RECOMMENDATIONS

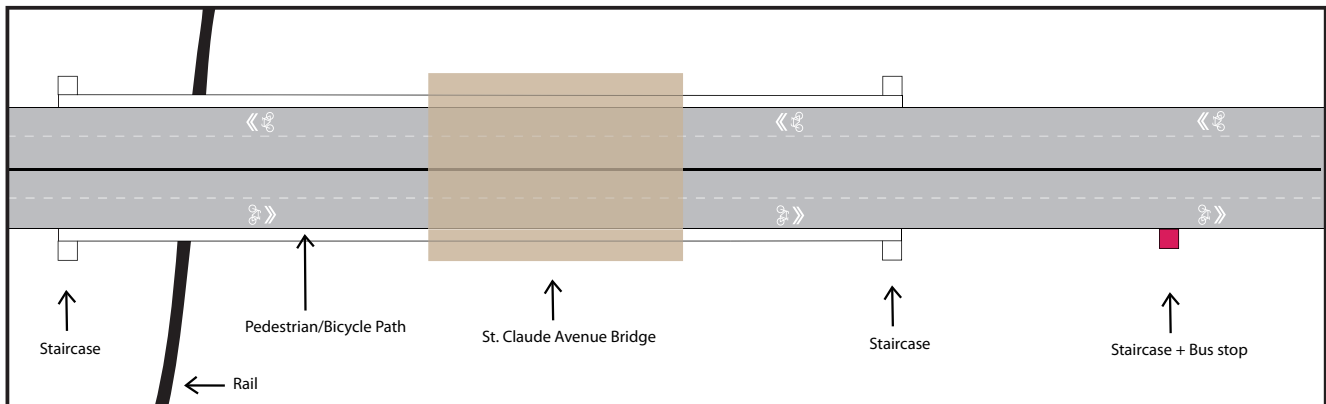
2. The Retrofit Alternative

The Retrofit Alternative entails expanding and improving the pedestrian path across the St. Claude Bridge to more efficiently and safely accommodate bicyclists and pedestrians. The new path would be ADA-compliant and designed to reduce the likelihood of crime against bridge users.

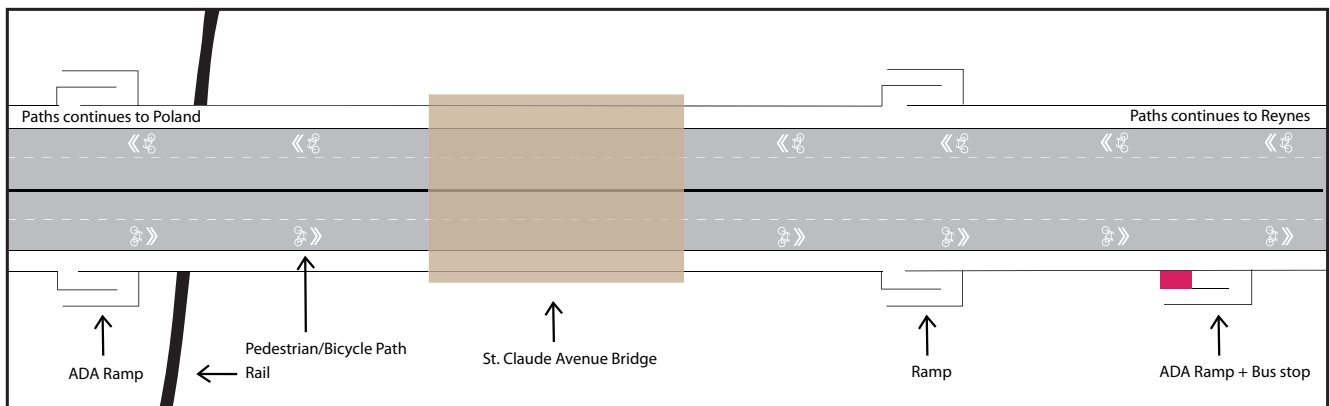
This alternative has four main components:

1. Lengthened paths: The existing pedestrian paths run only from levee to levee. These paths would be extended along the entire length of the bridge so that users are not forced onto isolated side streets but remain on the same plane as vehicular traffic, making them visible to more people at all times and deterring criminal activity.

Existing

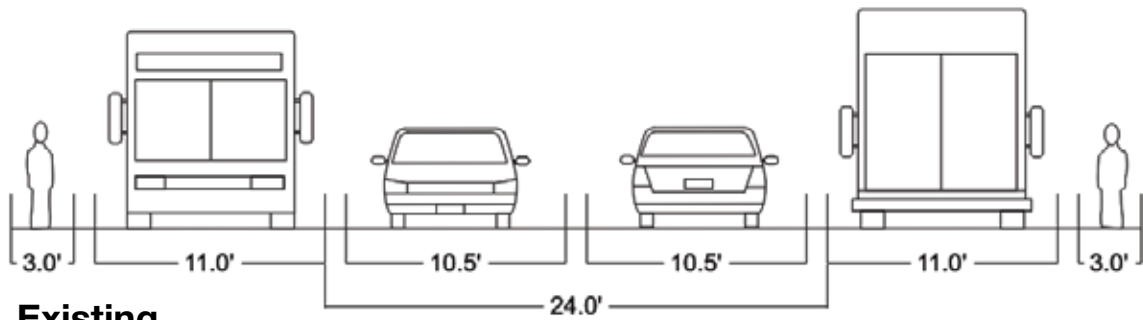


Proposed

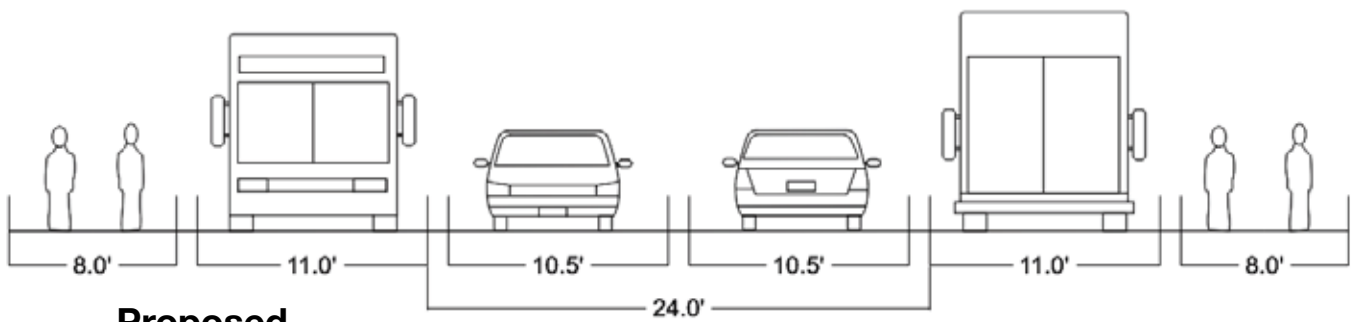


RECOMMENDATIONS

- 2. Widened, crash-protected paths:** The paths on the river- and lakesides of the bridge would additionally be widened from 3 feet to 8 feet to accommodate two-way traffic. A continuous, crash-resistant barricade would replace the existing chain-link fence that separates pedestrians from vehicular traffic.



Existing



Proposed

RECOMMENDATIONS

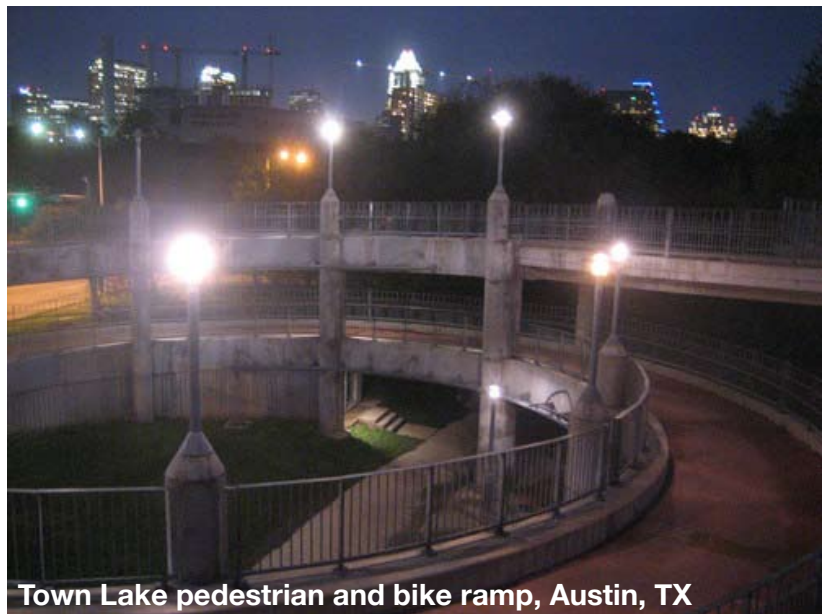
- 3. ADA-compliant ramp access:** The steep, non-ADA-compliant stairways would be converted to ramps to accommodate bicyclists and wheelchair users.



Morrison Bridge pedestrian and bike ramp

Photo courtesy of Just a Gwai Lo

- 4. New lighting:** New pedestrian-scale lighting would be installed along the length of the new non-motorized paths and along each of the new ramps.



Town Lake pedestrian and bike ramp, Austin, TX

Photo courtesy of Bruce Lemons

RECOMMENDATIONS

Recommended Alternative: The Retrofit Alternative

The Retrofit Alternative is the option Ct9 considers the most feasible for the St. Claude Bridge, based on probable cost, efficacy, existing traffic patterns and other factors. This alternative is similar to that employed in Portland to improve bicycle and pedestrian passage across the Morrison Bridge. Our analysis of the Retrofit Alternative is presented in the following sections.

Costs

Ct9 estimates that construction costs for The Retrofit Alternative will range from \$2.4 million to \$4.1 million.

Negative environmental consequences resulting from construction are likely to be minimal and all negative environmental impacts can be successfully mitigated.

Benefits

Savings on residents' transportation costs.

Improved evacuation.

Improved environmental quality.

Promotion of public health.

Improved safety, equity, and access.

Funding Sources

There are a variety of federal and state grant programs that could help cover the cost of building new bicycle and pedestrian infrastructure on the St. Claude Bridge.

COSTS

Construction Costs

Ct9 estimates that construction costs for The Retrofit Alternative will range from \$2.4 million to \$4.1 million. This rough figure is based on the costs of similar projects across the country. The Morrison Bridge bike and pedestrian path project in Portland, completed in 2010 and described in greater detail in the Case Studies section of this report, is similar in size and scope to The Retrofit Alternative. The Portland project cost \$1.9 million, with most of that money covered by federal sources.

Environmental Impacts from Construction

In 2009, as required by the National Environmental Protection Act, The United States Army Corps of Engineers published a supplemental environmental impact statement (EIS) related to the proposed Inner Harbor Navigation Canal Lock Replacement Project. This project called for expanding the lock that lies adjacent to the St. Claude Bridge. The Army Corps EIS contains extensive research and conclusions regarding the environmental impacts of construction on and in the immediate vicinity of the bridge that may be useful in assessing potential ecological effects of the new bicycle and pedestrian crossing recommended by Connect the 9.

Among the relevant findings included in the EIS, the Corps found that:

- There are no threatened or endangered species or critical habitats in the vicinity of the St. Claude Bridge.
- There are no aquatic habitats that would be permanently impacted by construction.
- Neighborhood fishing grounds located near the site would be impacted only for the duration of construction.
- The site does not lie near wetlands or woodlands.
- No air quality concerns should be raised by construction.
- Noise pollution expected during construction is the lone negative environmental consequence anticipated.

An environmental impact statement prepared in conjunction with a renovation project that included the addition of new bicycle and pedestrian facilities to Portland's Sellwood Bridge offers further

COSTS

insight into potential environmental impacts resulting from The Retrofit Alternative proposed for the St. Claude Bridge. Like the St. Claude Bridge, the Sellwood Bridge spans navigable waters and concerns multiple local, state and federal stakeholders (Multnomah County, 2010b). The EIS for this project, published in 2010 by the Federal Highway Administration, Oregon Department of Transportation and Multnomah County, noted that any proposal necessitating construction would temporarily disrupt nearby residents, traffic flow and the surrounding environment (Multnomah County, 2010b). Additionally, it found that any built alternative had the potential to cause erosion that could damage the structural integrity of the banks of the waterway (Multnomah County, 2010b). Construction was also determined to carry the potential for increased runoff and negative implications for water quality, potential risks that the EIS determined should be mitigated in the project's final design (Multnomah County, 2010b). Stakeholders further noted that several built alternatives considered would involve the filling of nearby wetlands. They suggested the enhancement of other nearby wetlands as a mitigation effort (Multnomah County, 2010b). While Ct9 does not believe the recommended St. Claude Bridge design proposal will affect wetlands, enhancement of nearby Bayou Bienvenue could provide a potential mitigation opportunity.

Finding | Negative environmental consequences resulting from construction of the recommended design proposal The Retrofit Alternative are likely to be minimal and all negative environmental impacts can be successfully mitigated.

BENEFITS

The primary benefits of The Retrofit Alternative are improved transportation safety, evacuation access, environmental quality and public health, though financial gains could also be realized. The Alliance for Biking & Walking estimates monetary benefits of improved bicycle and pedestrian infrastructure by quantifying the various quality of life benefits gained and then assigning monetary values to those considerations.

Transportation Benefits

One area that lends itself most readily to this type of calculation is the cost of car ownership. The American Automobile Association has estimated the average annual cost of owning and operating a car at \$7,632 (AAA). There are currently 5,500 people living in the Lower 9th Ward. If the addition of improved facilities for non-motorized users across the St. Claude Bridge made it possible for 5 percent of neighborhood residents to safely travel to school, work and to take care of other daily needs like shopping without having to own or maintain a car, the city would be creating a value for each of these bicyclists of roughly \$7,632 annually. This comes to a total annual benefit of close to \$2.1 million per year, negating any costs associated with owning and operating a bicycle.

Finding | Improving bicycle and pedestrian connections across the St. Claude Bridge could save residents money.

Evacuation Benefits

The St. Claude Bridge stands at the center of an important evacuation route for residents of the Lower 9th Ward and St. Bernard Parish. Providing a safe route to the center of the city for all users of the bridge during evacuation events should be a priority.

In an evacuation, the ability to walk and/or bike across the St. Claude Bridge offers potentially- vital access to additional transportation options, including participation in the city's Assisted Evacuation Program at the 9th Ward Stallings Community Center, located just one block over the bridge on St. Claude Avenue. The benefits of improved bridge access would be reduced evacuation delays, reduced injuries and reduced deaths. While it is difficult to attach dollar values to these benefits, the lessons of Hurricane Katrina show the potential costs of inadequate evacuation planning for the city's car-less residents.

Finding | Providing safe and convenient crossings for non-motorized users of the bridge carries important evacuation implications.

BENEFITS

Environmental Benefits

Air quality is directly affected by automobile emissions. The Environmental Protection Agency (EPA) has linked carbon dioxide (CO₂), a greenhouse gas, to climate change. The burning of fossil fuels for industry and by the transportation sector has led to a marked increase in CO₂ in our atmosphere. This increase has been linked to rising average temperatures, changing climate and weather patterns and rising ocean levels.

Using 2005 data, the Brookings Institute in 2008 estimated that residents of the New Orleans Metropolitan Statistical Area traveled, on average, more than 7,000 miles by vehicle per person per year (Brookings Institution). The EPA estimates that almost one pound of CO₂ is produced per vehicle mile traveled (EPA, 2011). That rate of vehicle travel means that metro New Orleans drivers are responsible for approximately 7,000 pounds of auto-generated CO₂ per person per year.

By contrast, non-motorized transportation such as bicycling and walking carries a miniscule carbon footprint and its promotion should be central to local efforts to improve air quality and combat climate change. New Orleans has a substantial and growing contingent of people who get around by non-motorized means. In light of this trend, rising awareness of the negative ecological implications of auto-dependent transportation and the stated interest among policy leaders and the public in sustainability and green infrastructure, it is important for the city to capitalize on opportunities to facilitate bike ridership and walkability.

The installation of dedicated bicycling infrastructure in the vicinity of the St. Claude Bridge has already been shown to increase ridership. An effort undertaken by the Tulane University Prevention Research Center found that cycling on St. Claude Avenue increased 57 percent six months after a new 3.1-mile bike lane was painted onto the street in 2008. Female ridership increased by 133 percent, while male ridership increased by 44 percent (Parker, 2011).

Finding | Improving access across the St. Claude Bridge for non-motorized users could help to improve environmental quality. It is also in line with stated city goals of encouraging alternative modes of transportation, environmental stewardship and sustainability and will likely increase the number of people crossing the bridge by foot or by bike.

BENEFITS

Public Health Benefits

Obesity rates in the U.S. have risen steadily over the last ten years, especially in the South. As healthcare costs rise, the financial costs associated with obesity increase in kind. The U.S. Centers for Disease Control recently estimated the average annual cost associated with each case of obesity in the U.S. at \$1,429 (Finkelstein et al., 2009). An estimated 29 percent of New Orleans residents are classified as obese. Assuming this rate is consistent citywide, roughly 1,600 Lower 9th Ward residents are obese, meaning \$2.29 million in obesity-related healthcare costs are generated by the neighborhood's population annually. Improving bicycle and pedestrian infrastructure is not going to automatically cure 1,600 cases of obesity, but it is reasonable to assume that offering safe and convenient options for non-motorized users could have a significant impact on neighborhood residents' lifestyles and health.

Finding | Promoting active transportation can improve residents' fiscal and physical health.

Although the preceding description of benefits may be of interest from a theoretical perspective, the practical message is more straightforward. Improving access across the St. Claude Bridge for all users will mean that those who currently walk or bike across the bridge will finally be able to do so safely; that those who currently drive across the bridge may opt for a cheaper, healthier, more ecologically-friendly mode of transportation; and that those uninterested in car-dependent lifestyles may consider the Lower 9th Ward as a viable possibility when looking for a place to live.

POTENTIAL FUNDING SOURCES

Ct9 identified several potential sources of money that could help cover the costs associated with recommended improvements. Federal grant programs outlined below are open to any organization applying through a local government agency. In the case of the St. Claude Bridge, the Port as bridge owner and operator would likely be the appropriate governmental agency to apply to the U.S. Department of Transportation, which would funnel any awarded grant money through the state DOTD. Under such a scenario, the Port would be expected to cover 5 percent of project costs.

Federal Transportation Enhancement Program

The Federal Highway Administration (FHWA) administers this program aimed at expanding communities' surface transportation options. Programs eligible for transportation enhancements funding include the provision of new facilities for pedestrian and bicyclists, and safety and educational activities for pedestrians and bicyclists. This program also provides money toward improving landscaping and other beautification efforts (FHWAa).

Federal Recreational Trails Program

The FHWA's Recreational Trails Program provides money to states toward the development and maintenance of recreational trails and trail-related facilities (FHWA b). The SCBSAC is primarily concerned about improving access across the St. Claude Bridge for safety and equity reasons, but eligibility for the Recreational Trails Program may be possible if funding is applied for in conjunction with other ongoing projects focused on developing recreational trails in the vicinity of the bridge.

TIGER Grants

The U.S. Department of Transportation's Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grant program, is geared toward investment in road, rail, transit and port projects that will have a significant impact on the nation, regions and metropolitan areas and that provide livability, sustainability and economic benefits. Congress dedicated \$1.5 billion for TIGER I, \$600 million for TIGER II, and \$526.944 million for the FY 2011 round of TIGER Grants (USDOT).

POTENTIAL FUNDING SOURCES

Other Projects and Proposals with Implications for the St. Claude Avenue Bridge

The Port of New Orleans 2020 Master Plan, approved in 2008, identifies several short-and long-term funding allocations with potential implications for the St. Claude Bridge:

(2008-2012)

1. Inner Harbor Navigational Canal Miscellaneous Improvements - \$5 million
 - This includes a variety of projects such as roadwork, demolition, building repairs, signalization and grade crossings.
2. Bridge Major Maintenance - \$5.5 million
 - This is a continuing program to keep the four Port-owned bridges in working order. Potential projects included under this line-item include mechanical, electrical and structural work to extend the life of the oldest bridges through 2015.

(2013-2020)

3. Industrial Properties - \$5 million
 - Drainage, fencing, road re-surfacing, etc. for Port-owned industrial properties

The Inner Harbor Navigational Canal Lock Replacement Project

As part of the Rivers and Harbors Act of 1956, Congress authorized a study for the Inner Harbor Navigational Canal Lock Replacement Project, which calls for expanding the existing lock to accommodate increased shipping traffic and deep draft ships. The Water Resources Development Act (WRDA) of 1986 re-authorized the project and established cost-sharing requirements with the non-federal sponsor, the Port of New Orleans.

The project includes a total replacement of the St. Claude Avenue Bridge, which is structurally part of the lock. In 1998, Congress authorized the Corps to move forward on the lock-replacement project. Construction began in 2001, but severe reductions in federal appropriations for the project, court orders and ongoing public opposition have stalled work. Residents of the Lower 9th Ward and St. Bernard Parish and environmental advocates perceive

POTENTIAL FUNDING SOURCES

the project as carrying adverse implications for surrounding neighborhoods, vehicular traffic and the environment. Supporters of the expanded lock, including Sens. Mary Landrieu and David Vitter, assert that the project is critical to the economies of New Orleans, the state and the Gulf Coast (Alpert, 2010).

Finding | Several Port-related project proposals and funding streams have the potential to affect the St. Claude Bridge.

CONCLUSIONS



Blighted property, Lower 9th

Photo courtesy of Ct9.



Maurepas Foods, Upper 9th

Photo courtesy of Maurepas Foods.

For too long, residents of the Lower 9th Ward have been disconnected from the core of the city, excluded from access to the cultural, commercial and employment opportunities found just across the Industrial Canal, thanks in part to an inadequately-equipped bridge that facilitates crossing for some users while leaving a significant number behind. The term “9th Ward” is often used synonymously with “Lower 9th Ward,” though the label actually describes a broader territory that has experienced dramatically different fates in the past several years especially.

The dual breaches of the Industrial Canal floodwall caused the Lower 9th Ward to suffer some of the worst Hurricane Katrina-related flood damage in the city. In the aftermath of the storm, this area that suffered economically before the storm has been one of the slowest to recover in terms of population, reinvestment and commerce. The surge in private and public sector investment seen in the Upper 9th Ward that has helped spur the proliferation of restaurants, art galleries and night spots and lure new residents from across the country stands in especially striking contrast to the situation across the canal. The Lower 9th Ward is a shell of its former self, with only a fraction of its year 2000 population, and many of its remaining physical structures abandoned and blighted. Whereas observers aplenty have testified to the renaissance afoot in the Upper 9th Ward, and in the Bywater neighborhood in particular, the cover story in the New York Times Magazine recently had as its subject the Lower 9th Ward’s reclamation by nature (Rich, 2012).

CONCLUSIONS

Architecturally, geographically and historically these two halves of the 9th Ward have much in common, yet the opportunities and access encountered on either side of the canal are wildly divergent. This phenomenon is not exclusively the fault of the St. Claude Bridge, but the bridge is one relatively easy obstacle to overcome. By making long-needed improvements to the bridge that facilitate crossing by all users, the opportunities available to residents of the Lower 9th Ward will almost certainly improve and the neighborhoods on both sides of the canal will be made more more appealing, livable places for existing and prospective residents.

St. Claude Bridge Survey

A copy of the survey distributed online and in paper form in conjunction with this project can be found on page 47. A total of 128 people responded to the survey, which consisted of 12 questions related to how people use the St. Claude Bridge and concerns related to biking and walking across it. The survey was designed and administered by Tulane Masters of Public Health candidate Shaila Parker with input from members of SCBAC and Ct9. It was distributed in paper form at the Sankofa Farmers Market at 3500 St. Claude Avenue on March 10, 2012 and on the St. Claude Avenue Bridge on March 17, 2012.

The survey was available online through the survey-taking Website Survey Monkey starting March 15, 2012 and was still available as of the publication of this report. Seventy-seven people participated in the survey online. Fifty-one responded to the paper version.

Of the survey respondents, 62 lived in the 9th Ward, with 14 describing themselves as from the Lower 9th Ward and 25 claiming the Holy Cross neighborhood. The remainder of the 9th Ward residents lived in Bywater. Mid-City residents were the next most-common survey-takers, accounting for 10 respondents. Seven were Marigny residents. Not all survey takers answered each question.

The average age of survey-takers was 36 years old. Of the 36 respondents who identified their race, 94 percent were white and 6 percent were not white. Of the 22 people who indicated their gender, 12 (55 percent) were female and 10 (45 percent) were male.

Just under half of respondents said they crossed the St. Claude Bridge regularly. Eleven used it daily, 23 did so weekly and 22 crossed monthly. Sixty-four respondents said they never walked or biked over the bridge.

Of those respondents that used the bridge regularly, 31 percent used a car to cross daily or weekly, 19 percent used a bike daily or weekly and 10 percent walked across the span daily or weekly. Fifteen percent said they sometimes crossed by bus.

Seventy-three respondents listed reasons that they cross the bridge for by foot or by bike. The most commonly-cited reason was getting to social events, including visiting friends and family, attending parades, and going to hear music. This reason was listed by close to 32 percent of respondents. Just under 28 percent of respondents said they crossed by bike or by foot to get to work. Purchasing food and groceries was cited by almost 16 percent. Exercise purposes was cited by 14 percent. Health care access was cited by 6.5 percent. Getting to school was cited by close to 3 percent. Shopping was another common reason.

Respondents were asked how safe they felt crossing the bridge by foot or by bike during the day. Of the 71 people who answered this question, only 1 percent of respondents said they felt “very safe” when crossing the bridge. Twenty-two percent said they felt “slightly safe.” Forty-nine percent said they felt “a little” unsafe. Twenty-four percent felt “very unsafe.”

Respondents were also asked to gauge how safe they felt crossing the bridge at night. Only 1 percent

said they felt “very safe.” Five percent felt “slightly safe,” 23 percent felt “a little unsafe,” and 66 percent said they felt “very unsafe.” Half of respondents reported experiencing safety-related problems when crossing the bridge.

The survey also asked respondents to list their three top concerns about crossing the bridge by foot or by bike. Of the 75 participants who responded to this question, the top concern cited was the absence of bike lanes. Speeding vehicles and poor lighting were the second and third most-common responses, respectively. Other concerns cited included narrow vehicle lanes and walkways, crime, poor signage, poor road conditions, and roadway debris. One respondent listed “rape.”

Community Outreach Survey

1. Please tell us which Neighborhood you live in. _____

2. How often do you use the following ways to go across the St. Claude Bridge?
Please circle how often you use each method.

Walk:	Daily	Weekly	Monthly	Never
Bike:	Daily	Weekly	Monthly	Never
Car:	Daily	Weekly	Monthly	Never
Bus:	Daily	Weekly	Monthly	Never

3. For what reasons are you going across the St. Claude Bridge?
Put a check mark in the box for each reason you travel across the bridge, for each of the methods you use.
You can mark as many boxes as you need. You may also provide another reason or place that you travel.

	Work	School	Food & Groceries	Healthcare	Other: _____
Walk					
Bike					
Car					
Bus					

4. How safe do you feel using the bridge for your primary method of travel? Please circle from the options below for both day & night.

Primary method of travel:		Walk	Bike	Car	Bus
During the day:	Very Safe	Fairly safe	A little Unsafe	Very Unsafe	
At night:	Very Safe	Fairly safe	A little Unsafe	Very Unsafe	

5. Have you ever had any safety problems using the bridge? (Please Circle) Yes or No
If yes, please explain.

6. What safety concerns do you have about using the bridge? Please circle all that apply.

Debris & trash on roadways	Poor lighting	Crime	Narrow walkways
No bike lanes on road	Handrails on stairs	Bus stop access	Speeding vehicles
Unclear bike & walk signs	Other: _____		

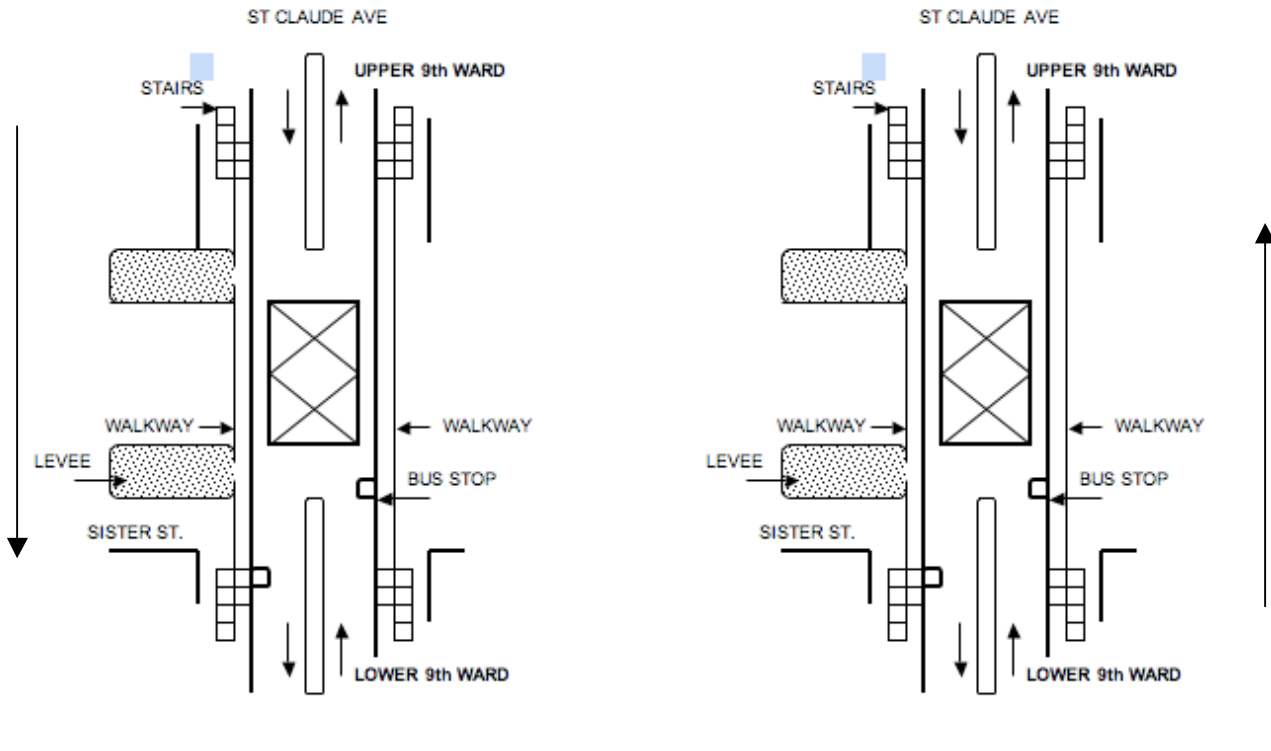
7. Please list your top 3 safety concerns about using the St. Claude Bridge.

#1:

#2:

#3:

8. What path do you take to use the St. Claude Bridge?
 Please draw the path you use in each direction on the maps below.



9. What would you suggest to improve the safety of the St. Claude Bridge?

10. Are there any other comments you want to add?

Optional: Please provide some background information about yourself:

Age: _____

Race/Ethnicity: _____

Thank you very much for your time! Your feedback is valued!



Ct9 member Jon Dodson takes notes during a bicycle and pedestrian count in March 2012. Photo courtesy of Emilie Bahr

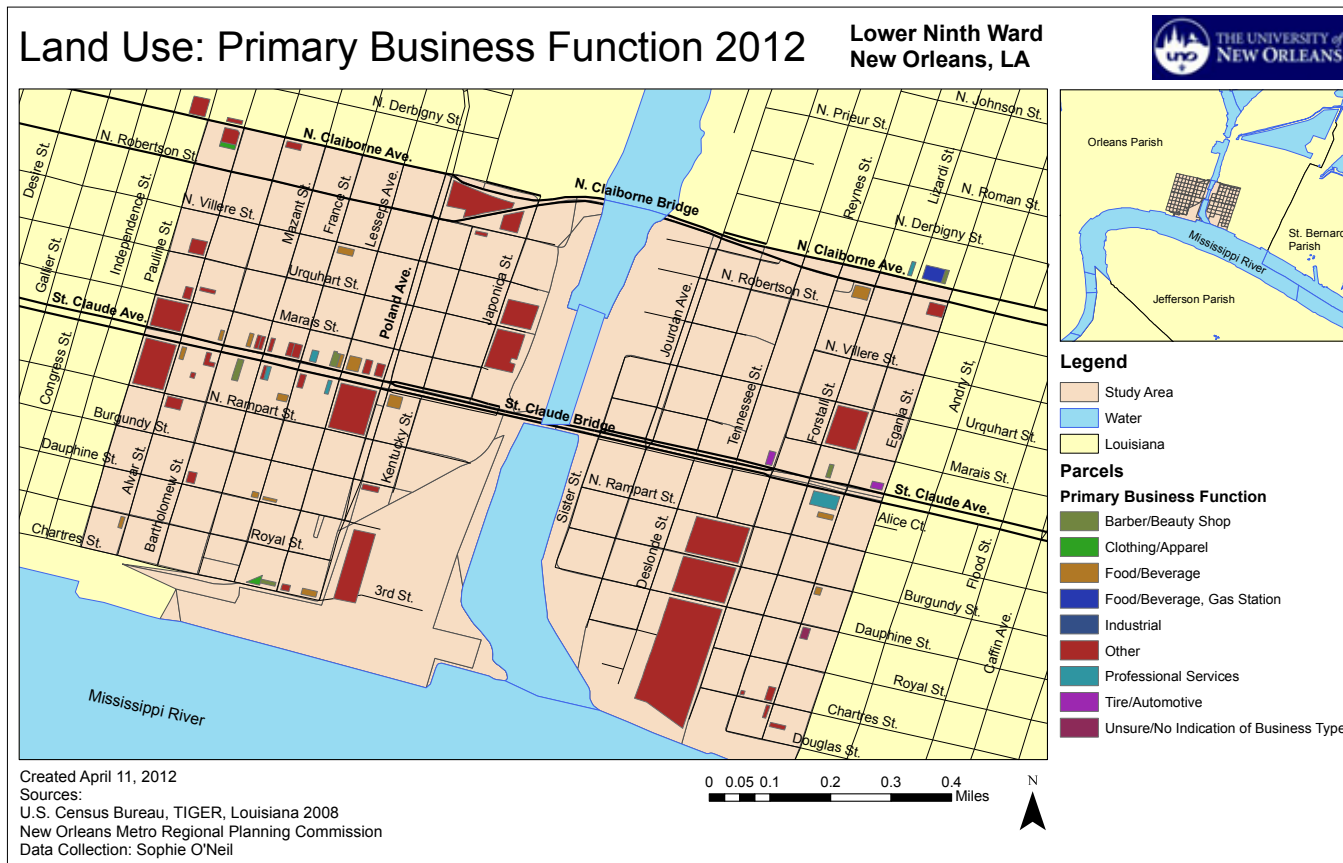
St. Claude Bridge Bicycle and Pedestrian Counts

Representatives of Ct9 and the SCBSAC conducted two, 10-hour pedestrian and bicycle counts on the St. Claude Bridge in the Spring of 2012. The counts followed standard protocol for bicycle and pedestrian counts established by researchers at the University of New Orleans and Tulane. They were conducted on a Tuesday and Wednesday, beginning at 7:30 a.m. and ending at 5:30 p.m. Weather on both days was mostly clear, with some rain in the afternoon on the first day of counting. During the counts, observers stood on the riverside pedestrian path on the Bywater end of the bridge just, west of the movable span.

Each instance of a person riding a bicycle or walking across the bridge was recorded, along with the direction of non-motorized travel, the hour the crossing occurred, the estimated age of the person crossing, the path used and, where possible, how users exited the bridge. Instances of the bridge being raised and lowered were also noted.

Over the course of the two 10-hour counts, 271 bicycle crossings of the bridge were recorded, with 137 bicyclists observed on the first day and 134 on the second. Two hundred eight pedestrians were noted, 95 on the first observation day and 108 on the second.

Zoning, land use, topography and flood zones



Zoning and land use

The land immediately surrounding the St. Claude Bridge is located within a Light Industrial (L-1) zoning district. This classification authorizes an array of light manufacturing and processing and wholesale distribution and warehousing uses. One conditional-use permit exists along the canal.

Residential areas bordering the L-I District are for the most part zoned two-family residential (RD-3). This zoning classification allows for two-family and town house development on smaller lots in older, more densely-population sections of the city. It also authorizes certain non-residential uses, including churches and recreational facilities, among other uses deemed compatible.

St. Claude Avenue serves as the epicenter of commercial activity for the project area on both sides of the bridge. The varied patterns of land uses reflects the period in which of the development of this area took place, when automobile use was not as prevalent as it is today.

The area surrounding the bridge includes commercial, institutional and residential activities. Although many of the commercial entities appear run-down, most are operational. The Holy Cross neighborhood contains a substantial number of abandoned, blighted houses. Business activity is concentrated in corner stores, many of which serve food. There are two gas stations and six beauty and hair-related businesses. The Bywater side of the bridge is home to several art galleries, restaurants and cafes.

A half-mile north of the St. Claude Avenue Bridge, commercial activity is far more limited. There are several churches in operation, but few retail outlets. This is likely due to the residential zoning classification for this area and that fact that this section experienced greater flood damage and has been slower to recover its population.

Topography

The levee on the eastern side of the canal south of the bridge ranges from 8 to 12 feet above mean sea level. Where Deslonde Street intersects with the Mississippi River, the elevation rises to 20 feet above mean sea level, the highest point in the immediate area. The land on either side of the levees ranges from 1 to 7 feet above sea level.

With an average elevation between one and two feet above mean sea level, the immediate area of the bridge is relatively higher than the surrounding area.

Flood zones

The area immediately surrounding the St. Claude Avenue Bridge includes two flood zones. The effective 1984 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) shows the area north of the bridge is located in Flood Zones A1 and A13, areas subject to inundation by a 1-percent-annual-chance flood event, as determined by FEMA. Mandatory flood insurance purchase requirements and floodplain management standards apply. The 1984 FIRM shows that both sides of the bridge and the area south of St. Claude Avenue lie in Flood Zone B, a moderate flood-hazard area, located between the limits of the base flood and the 0.2 percent annual-chance (or 500-year) flood risk (FEMA). Participation in the National Flood Insurance Program is not mandatory in this zone. Figure 17 details the applicable 1984 FIRM for the project area.

As the threat of flooding varies with changes in topography, infrastructure, density, climate change, etc., the effective FIRMs must be updated regularly. FEMA released preliminary digital FIRMs (DFIRM) on February 6, 2009. The DFIRMs for the study area show that that the land on either side of the bridge and immediately north and south of St. Claude Avenue will be in Flood Zone AE, meaning the entire project area will be required to participate in the National Flood Insurance Program.

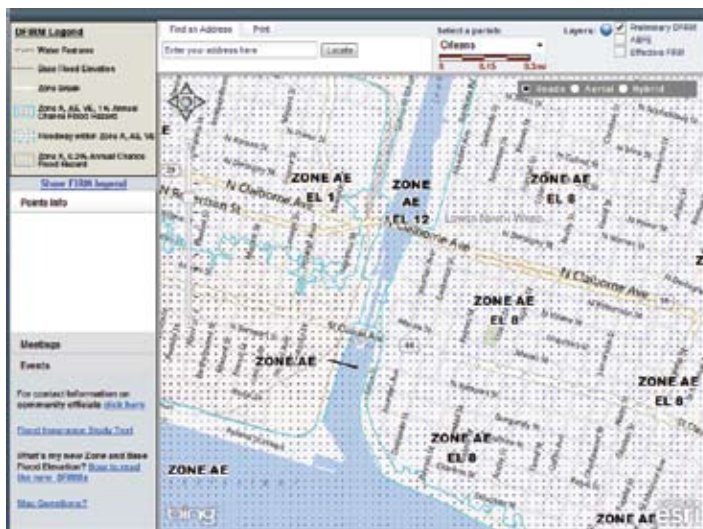


Figure 16: Preliminary DFIRM for the project area (1984). Map courtesy of LSU AgCenter

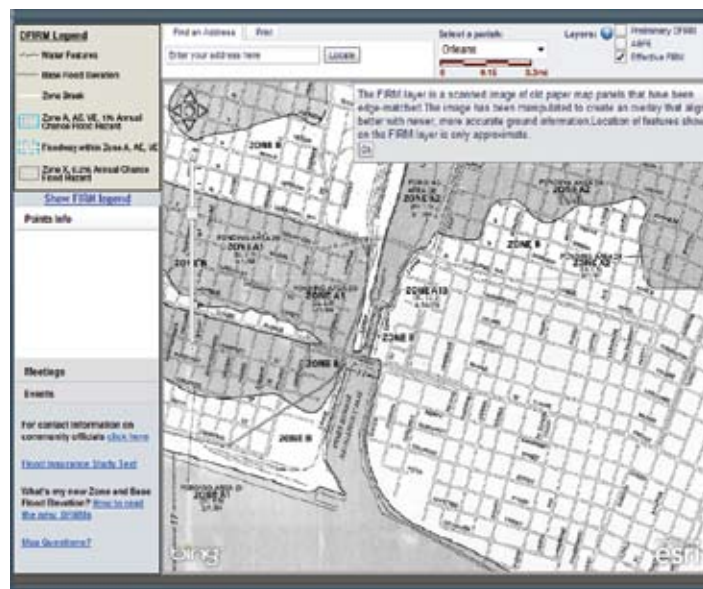


Figure 17: Existing FIRM for the project area (1984). Map courtesy of LSU AgCenter

Meeting at RPC with NOPD Traffic Department

Attending:

Lt. Micheau – Traffic Commander

Sgt. Palumbo – Traffic Administrator

Dan Jatres - RPC

Karen Parsons - RPC

Nik Richard – RPC/UNO

Jon Dodson - UNO

The meeting was focused on understanding and determining police strategies for reducing bicycle and pedestrian fatalities along the St. Claude Bridge.

The Traffic units are stretched thin as it is and are unable to step up or more closely focus on St. Claude Bridge without additional financial assistance. They have 31 officers total for all of New Orleans, around half of which write up accident reports Monday through Friday throughout the day. They also monitor and enforce traffic regulations between the hours of 6.25 AM and 11 PM six days a week. Between 9.25 PM and 6 AM six days a week, the other shift focuses on DWI enforcement, resulting in about two a night for DWI violations. Outside of those time slots, enforcement is on a district by district basis. In addition to these time slots for the traffic units, they also routinely get pulled for special events, further limiting how often they are able to patrol select areas.

On average, there are about 150 accidents a week that they manage. This is not the city total- just what they handle. Due to their time and force limitations, they are forced to be more reactive than proactive, as mitigation is put on the backburner out of necessity. However, they understand the need for being proactive and would like the opportunity for that assuming funds existed.

The force likes the idea of signs and better lighting for the bridge. If a grant were provided through the city for additional work hours, they could focus on the St. Claude Bridge by enforcing measures like:

- Posting a lit car on the bridge, announcing their presence
- Checking lights on passing cars
- Speeders
- General enforcement actions on passing motorists
- They would also stop and warn cyclists for not following proper traffic laws

The lieutenant and sergeant also passed along advice on where to seek additional funding and better ways to reach out to the community through the Quality of Life Officers. There are eight total of these officers, one for each district. These persons are the best way to disseminate information to the community concerning bicycle and pedestrian safety. In addition, they would like a program instituted for classroom instruction to area schools on how to follow bicycle laws. An additional way to spread information mentioned is through internal police education classes, which are issued yearly during each officers birthday months. These classes amount to 40 hours a year per officer, several of which could be devoted to bicycle and pedestrian safety instruction. The last option is for the public to sign up for the Citizens Academy to gain a better working knowledge of the officers on the ground in the city and to share ideas and information.

St. Claude Bridge Safety Meeting

Regional Planning Commission

3/6/12

Agencies Represented: RPC, Port of New Orleans, 5th District NOPD, Harbor Police, Tulane, DPW, DOTD, CSED

Meeting Minutes

The Port is currently working on an environmental impact statement as a result of their attempts to build a larger set of locks.

According to the Bicycle and Safety Committee, the community has identified three components; maintenance, infrastructure and education. Some immediate fixes that can improve the safety are implementation of pedestrian scale lighting along the bridge and in the tunnels. Improved lighting would help mitigate potential criminal activity. Additional, maintenance and the port need to clear debris from the shoulder nearest the riverside pedestrian walkway. There was also an attempt to close the Sister Street tunnel in order to deter crime, which was met with community opposition.

ADA compliance is important, but given the potential money limitations, it is on the backburner. A better fix would to still keep the bus stop on top of the levee, but to also bring back bus routes into Holy Cross, allowing the disabled to have access to neighborhood bus stops. RTA was not present at the meeting. Allowing a bicycle, pedestrian or wheelchair grade ramp would be too long to include from a feasibility standpoint. David expressed his desire to not eliminate the existing bus stop as to not eliminate service for those residents who regularly use it.

From 2007 through 2009, there have been a combined 32 auto and bicycle/pedestrian accidents between Poland and Renee.

The Port of New Orleans owns and operates the bridge itself as well as the bridge surface and raising/lowering mechanisms. Furthermore, the Saint Claude Bridge is actually a non-state bridge on a state highway with various governing entities in charge of different aspects of the bridge. Additionally, as far as lighting is concerned, many of the lights for the bridge are actually City of New Orleans lights that extend vertically from the street below. Any lights on the bridge itself or within the tunnels belong to the Port (including the Sister Street tunnel and the Jordan Canal Tunnel).

The existing signage on the highway encouraging people to share the road date back to around 1988.

The Port cleans the parking lot on the Lower 9th, lakeside every two weeks during the peak summer season. The trashcans are also emptied weekly. Any trees growing from below are DPW's responsibility. Local residents would also like one or more trashcans for certain areas to eliminate dumping.

Jeff Roesel of the Regional Planning Commission has updated traffic counts for the bridge.

Immediate ideas to help remedy the situation range from simple design interventions, to better signage to improved speed enforcement. Jennifer Ruley, a pedestrian and bicycle engineer for the City of New Orleans, is open to exchanging design ideas and solutions. Her contact information can be provided upon request.

The Port of New Orleans is welcoming to all ideas concerning improving the safety and welfare and specified that nothing is off the table. Their suggestions included:

- Adding spiral ramps on either side of the bridge
- Finding the easiest and safest way to improve levee to levee access
- Putting bike striping (Chevron signs) in the middle of the right lane of the bridge to further encourage a shared road (where bikers would ride in the middle of the road, not the side)
- Designing an additional pedestrian/bike bridge that would connect from point to point at the entrance of the Industrial Canal

Renderings of The New Bridge Alternative



(Images above and below) Aerial view from the mouth of the Industrial Canal



Ground view

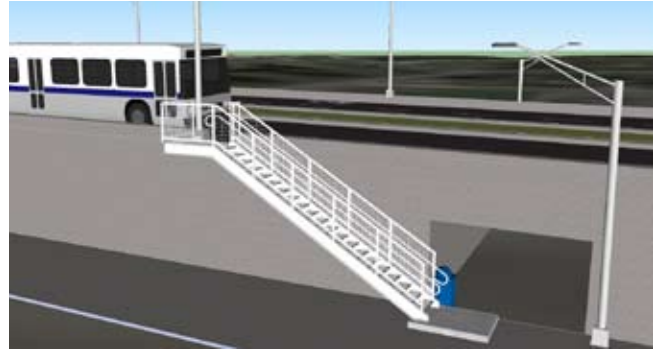


Pedestrian overlook

Renderings of The Retrofit Alternative



Wider paths



Improved railing



Better signage and more shared-lane striping



Extended bicycle and pedestrian path along St. Claude Avenue Bridge

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