

## Project Justification and Description

Compton Avenue plays a key role in the City of St. Louis as a critical connection north-south throughout the City. From North City St. Louis to South City St. Louis, Compton is a minor arterial that serves to efficiently move transportation, and connect people with goods and services, as well as local destinations, employment centers, and recreational opportunities. Compton Avenue connects 11 neighborhoods, Saint Louis University, Harris Stowe University, multiple other employment centers and schools, as well as access to many of the City parks, and direct connections to routes identified in the Gateway Bike Plan. Enhancing and updating facilities on this corridor are a priority for the City as we serve to better connect people to opportunity, and promote a robust multimodal transportation system that supports walking, biking, transit users, and motorists.

The Compton Avenue Bridge from Chouteau to Spruce provides direct access to Midtown, and one of the few connections linking neighborhoods in south city to Downtown St. Louis. Thus, updating the bridge so that it is safe, and promotes linkages for all transportation users, is necessary as we advance our transportation system. The bridge is currently in poor condition, and does not provide a safe connection for users that are not in motor vehicles. Identified as an important north-south bicycle route, updating this bridge gives the City a chance to implement facilities that have been previously identified as regionally important in the Gateway Bike Plan. As a critical connection to Downtown St. Louis, the region's urban core, and an identified regionally important route, the Compton Avenue Bridge Reconstruction will benefit all users in the St. Louis region.

The existing bridge was originally constructed in 1911 and reconstructed in 1965. While the majority of the bridge is over 50 years old, the foundations are still original from the 1911 construction. The existing Compton Avenue Bridge is a 28 span 1350-foot-long structure, and is near the end of its useful service life. The bridge deck is 44 feet wide and has four-11 feet wide lanes with a 4 feet wide sidewalk on both sides of the bridge, with no shoulders. At the north end of the bridge there are several spans that were originally constructed to cross additional railroad tracks. However, those tracks no longer exist, thus the spans are no longer necessary, further justifying this update to bring the bridge functionally up to date, with more efficient and sustainable use of necessary materials. For the Compton Avenue Bridge Reconstruction, we have proposed a project that not only completes many necessary safety and functionality updates, but one that is important to our regional transportation system as we continue to promote walking and biking as important modes as we plan for the future growth and development in St. Louis.

The proposed improvement for the Compton Avenue Bridge Reconstruction is to provide a new bridge crossing over the Mill Creek railroad yard for Compton in the City of St. Louis, that serves as an updated connection to many important regional locations. The new bridge will improve pedestrian and bicycle facilities over the railroad tracks, as well as provide linkages to existing bicycle and pedestrian facilities, as well as future facilities, including the Chouteau Greenway was identified in Great Rivers Greenway River Ring plan. In addition to updating these connections, these improvements will significantly reduce the length of the bridge by eliminating the unnecessary spans using retaining walls and fill. The current configuration of the bridge is four vehicular lanes, two in each direction, with limited sidewalk facilities. The northbound direction carries two through travel lanes; while the southbound direction carries one through lane and one left-turn lane. The approximately 15,000 ADT operates at a level of service (LOS) D.

The proposed configuration is to provide four vehicular travel lanes (two northbound and two southbound) as well as the addition of a physically separated 10' wide, 2-way cycle track, and 6' wide sidewalk.

The proposed improvements update many problems with the current structure, and update deficiencies that currently exist, promoting a better transportation system that is in line with the Connected 2045 plan. First, a major problem that will be addressed is updating the outdated foundations. Current bridge foundations are 106 years old (originally built in 1911). Several of the piers have cracking, spalling and delaminated concrete and are in need of repairs. The most problematic areas are found below the 8 intermediate deck expansion joints.

Next, concrete bridge deck is in poor condition (condition rating = 4, 06/27/2012) and is in need of replacement. Areas of the deck have severe concrete spalling with exposed reinforcement bars along the face of the raised sidewalks for nearly the entire length of the structure. The deck has been patched and repaired numerous times already. The bridge is in urgent need of repairs to the steel beams as well. The outside fascia beams are in need of sandblasting with new paint and repairs need to be made at several locations, most notably at the beam ends by the expansion joints. Additionally, the expansion joints have started to fail and become misaligned, which presents a hazardous condition to pedestrians using the sidewalks. Another problem this project seeks to address is maintenance, upkeep, and sustainability of the structure that is currently overbuilt due to changing patterns under the original bridge structure. Currently, the bridge is 1350 feet long, but only needs to be approximately 450 feet long to span the railroad yard. The reduction of bridge spans is due to the abandoned railroad tracks that the bridge was originally built to cross. These eliminated spans will be filled with fill and retaining walls within the existing right-of-way. Updating the bridge to the necessary size for current conditions promotes an efficient piece of transportation infrastructure, and minimizes long-term maintenance costs for the City of St. Louis, and thus an efficient decision for the region.

Finally, the current configuration of the bridge does not adequately serve all modes of transportation. While there are sidewalks, the current condition of the bridge is hazardous to pedestrians, and creates an environment that may seem unsafe to cross. Given the route has been regionally identified as a critical north-south connection for pedestrians and bicyclists, updating the bridge to the configuration previously identified is important as we advance multimodal transportation. In addition to being identified as a critical route, Compton Avenue connects both existing and planned bicycle and pedestrian routes, as well as services to move transit users throughout the St. Louis region.

A new bridge would address the deteriorating condition of the current structure and provide a new safe crossing with a full service life. A new bridge with a shorter span length would lower the long-term maintenance costs of the bridge. Additionally, a new bridge would improve the multi-user, pedestrian/bicycle facilities over the railroad tracks and maintain a vital link for goods movements across the railroad tracks. Given the high level of importance of the Compton corridor within the City of St. Louis, as well as the St. Louis region, completing the Compton Avenue Bridge reconstruction is critical for promoting a sustainable, healthy, vibrant and growing St. Louis region. As we are continually committed to providing people to opportunities, we are committed to providing a robust and efficient transportation system, and this project will do just that, working to enhance the quality of life for all residents of the St. Louis region.

# Project Highlights

Total project length - 1,990' (Chouteau Avenue to Spruce Street)

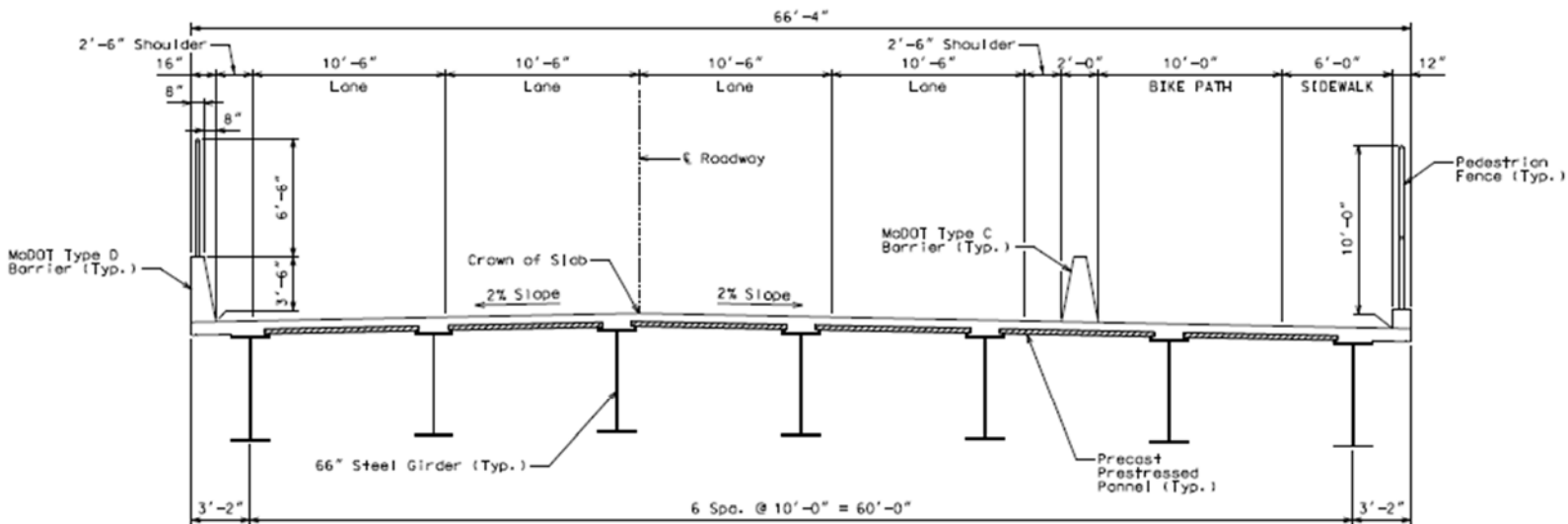
Existing bridge - 28 spans, 1350' length, 54' 9" width

Future bridge - 3 spans, 438' length, 66' 4" width

The new bridge will have:

- Four 10.5' driving lanes
- 10' two-way cycle track, protected from vehicular lanes by a concrete barrier curb
- 6' pedestrian sidewalk
- Vehicular/pedestrian street lighting
- Superstructure to be steel plate girders
- Minor improvements to the Chouteau and Spruce intersections to connect the new bicycle facilities

The typical section of the bridge is shown below.



TYPICAL SECTION