
Office of the City Auditor

Interdepartmental Correspondence Sheet

TO: Councilwoman Shirley Gonzales, District 5
CC: Eugene Rodriguez, District 5
FROM: Kevin Barthold, City Auditor
SUBJECT: Review of TCI Bike Master Plan update
DATE: February 13, 2020

As requested, we conducted a review of the status of the 2011 Bike Master Plan managed by the Transportation and Capital Improvements Department (TCI). The request included validation of the completed bike facilities along with comparing the bike facilities to the 2011 Bike Master Plan. The objectives were:

- A. Validate the current bike facilities and mileage reported by TCI.
- B. Compare the 2011 Bike Master Plan to the list of completed bike facilities to identify how many of the originally proposed miles were actually implemented.
- C. Identify the criteria and methodology utilized in determining the implementation or rejection of proposed bike facilities.

Background

In September of 2011, the City Council passed the Bike Master Plan to promote the implementation of proposed bike facilities throughout the corridors of the city. The City's goal of the plan was to increase ridership for daily travel and improve cycling safety by making the bike network accessible, direct, and continuous.

The plan recommended 881 miles of bike facilities to be implemented across San Antonio. See chart below for a summary of recommended bike facilities.

2011 Bike Master Plan Recommendations			
Facility Type	Description (See Appendix A)	Count	Miles
Separated Bike Lane	Physical barrier between bike facility and vehicle lane	30	12
Buffered Bike Lane	Additional painted buffer	24	22
Bike Lane	Striped, includes pavement markings and signage	922	585
Cycle Track	Protected, outside of the pavement, exclusively for bikes	7	3
Multi-Use Path	Protected, outside of the pavement, shared w/ pedestrians	74	118
Sharrow	Includes pavement markings and signage	68	29
Signed Route	Signed facility with no pavement markings	191	74
Shoulder	Striping with no bike pavement markings	29	38
TOTAL		1,345	881

Also included in the plan was an implementation strategy to identify methods for strengthening the execution of the recommended bike facilities. The goals of the implementation strategy were to dedicate funding, obtain political commitment, and establish partnerships to implement the facilities and programs in the plan. Additionally, listed below are the initial objectives of the implementation strategy:

- Increase staffing and funding for appropriate areas of the city to implement the goals and objectives of the 2011 Bike Master Plan.
- Institutionalize bike planning through new or revised policies, code amendments, operating procedures, and citizen advisory committees.
- Engage and coordinate with other departments, agencies, and organizations to leverage resources and strengthen implementation efforts.
- Periodically monitor implementation progress and update the Bike Master Plan on a regular basis.

In June of 2019, TCI provided City Council with an update to the 2011 Bike Master Plan. The update disclosed the gaps in the original implementation strategy and introduced changes to the plan including data collection/evaluation, data analysis, public outreach/engagement, implementation strategy, project cost estimation, and funding opportunities.

Furthermore, TCI's proposed Micromobility Policy Document will be designed to take the conceptual recommendations from the 2011 Bike Master Plan and provide the detailed analysis to make them a reality. Finally, TCI's goal is to complete a FY 2020 Bicycle Facilities Infrastructure Management Program (IMP), which will focus on facility maintenance.

One of the hurdles in the implementation of bike lanes was a policy change approved in May of 2014. A City Ordinance was approved which prevents bike lanes from being implemented in existing residential neighborhoods where the street width cannot accommodate both bike lanes and on street parking. This ordinance significantly limited the number of new bike lanes to be considered for implementation.

A. Bike Facilities Validation

Within the 2019 Bike Master Plan update, TCI reported that 259 miles of bike facilities have been implemented in San Antonio. We reviewed a sample of 40 bike facilities representing 30.7 miles to confirm the existence of the facilities, evaluate the usability, and validate mileage. Our review consisted of validating facility types and mileage with the use of google maps and visual onsite observation. The following table is a summary of our review.

2019 Bike Lane Miles		
Facility Type	Miles Reported	Miles Reviewed
Bike Lane	155	17
Buffered Lane	11	.4
Cycletrack	2	0
Multi Use Path	20	5.5
Signed Route	65	4.3
Separated Lane	1	0
Shoulder	5	3.5
TOTAL	259	30.7

We determined that all facility types reviewed are in agreement with the types reported in the 2019 Bike Master Plan update. Additionally, we confirmed that the mileage reported in the plan update was accurate.

However, we did observe facility maintenance needs such as overgrown vegetation and faded striping. Currently, TCI does not have a dedicated bike facilities maintenance program or funding to address the ongoing maintenance needs of the bike facilities program. Maintenance needs are currently addressed within their maintenance cycles included in the IMP Pavement Marking that is submitted to Council annually during the IMP development process.

B. Comparison of 2011 Bike Master Plan to 2019 Plan Update

We performed a comparison of the facilities reported in the 2019 Plan update to the recommended 2011 Bike Master Plan facilities to determine the percentage of completed bike facilities from the original plan. Our review consisted of comparing street names along with start and end points.

According to the 2019 Plan update, 339 bike facilities representing 259 miles were reported within the City's network. We determined that since 2010, 49 miles of bike lanes have been added to the City's network. See summary table below.

Miles of Bike Lanes Reported		
Year	Miles	Miles Added
2000	36	-
2010	210	174
2019	259	49

Of the 259 miles of bike lanes reported, 219 (85%) were in agreement with the street name initially recommended in the 2011 Bike Master Plan. Of the 219 miles, 210 were improvements or maintenance to existing bike lanes and 9 miles were new bike lanes. 40 miles added from 2010 to 2019 were not included in the original 2011 Bike Master Plan recommendations.

While the 2011 Bike Master Plan provided an outline for the purpose and need for bike facilities, the proposed implementation strategy did not provide for feasibility or guide implementation. According to TCI, a feasibility evaluation of proposed facilities is critical to guide funding and implementation. Through the creation of the FY 2020 Bicycle Facilities Infrastructure Management Program, TCI's evaluation of proposed facilities would consist of an analysis of facility quality metrics, traffic modeling, design, right of way, and cost combined with extensive public outreach.

C. Implementation Methodology and Criteria

Bike facilities projects proposed for implementation are reviewed and approved by City Council during the annual Infrastructure Management Program (IMP) development process. TCI utilizes the following elements in selecting projects for implementation:




- Connections to regional destinations, greenway trails, and other high need areas
- Overall importance the existing bike network
- Gap reduction
- Resident input
- Ease of implementation




In addition, TCI utilizes criteria such as the American Association of State Highway and Transportation Officials (AASHTO) Guide for the development of Bike Facilities, Federal Highway Administration (FHWA) Bikeway Selection Guide and National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide in determining feasibility of a project.



Although TCI utilizes multiple elements in determining feasibility and safety for the implementation of a proposed bike facility, there is not a defined prescription for how they arrive at their determination. Currently, TCI identifies projects that make vital connections to existing facilities, next phases of facilities, and public requests. However, their methodology and review processes are not documented or auditable.

We hope that the information provided answers your questions regarding the progress and future plans for bike lanes. Please contact our office should you have any additional questions or concerns regarding this review.

Appendix A – Facility Types

Facility Type	Example	Definition and Treatments	Where is this facility found?
Separated Bike Lane		<ul style="list-style-type: none"> • Striped bike lane • Physical barrier between bicycle facility and vehicle travel lane • Physical barrier can consist of pylons, bollards (shown left), parked cars, or curb 	<ul style="list-style-type: none"> • High speed (35mph+) • High volume roads • Few driveways and cross streets
Buffered Bike Lane		<ul style="list-style-type: none"> • Striped bike lane • Additional painted buffer • Provides visual separation between vehicle travel lane and bike lane • Buffers can range from 1.5' to 4' wide 	<ul style="list-style-type: none"> • Moderate speed • Moderate to high volumes
Bike Lane		<ul style="list-style-type: none"> • Striped facility • Includes pavement markings and signage • Facility must be at least 5' in width 	<ul style="list-style-type: none"> • Moderate to low speeds • Moderate to low volumes

Facility Type	Example	Definition and Treatments	Where is this facility found?
Cycle Track		<ul style="list-style-type: none"> • Protected bicycle facility • Outside of the pavement • Used exclusively for bicycles 	<ul style="list-style-type: none"> • High speed streets • Few driveways and cross streets • Wide roads • Roads with numerous curves • Roads with heavy truck traffic
Multi-use Path		<ul style="list-style-type: none"> • Protected facility • Outside of the pavement • Shared between pedestrians and bicyclists 	
Sharrow		<ul style="list-style-type: none"> • No specific designated bike facility • Includes signage & pavement markings • Often accompanied with signage such as “Bikes May Use Full Lane” and “Changes Lanes to Pass” • Requires at least 14’ wide travel lanes 	<ul style="list-style-type: none"> • Low speeds • Moderate to low volumes

Facility Type	Example	Definition and Treatments	Where is this facility found?
Signed Route		<ul style="list-style-type: none"> • Signed facility with no pavement markings. • Signage may include “Bikes May Use Full Lane” and “Change Lanes to Pass”. 	<ul style="list-style-type: none"> • Low speeds • Low volume residential streets
Shoulder		<ul style="list-style-type: none"> • Striping with no bike pavement marking symbol. • Often accompanied by "Share the Road" signage. 	<ul style="list-style-type: none"> • Rural roads or highway frontage roads • Moderate to high speeds • Low traffic volumes • Heavy truck traffic