



MEMORANDUM

TO: Mayor and Council; Boards & Commission
FROM: Howard Lazarus, Acting Assistant City Manager
DATE: April 5, 2010
SUBJECT: Nueces Bicycle Boulevard – Staff Recommendation
ATTCH: Downtown Bicycle Boulevard Layout
CC: Rob Spillar, Director, Austin Transportation Department
Robert Hinojosa, Acting Public Works Director
Mike Curtis, Division Manager, Neighborhood Connectivity Division
Annick Beaudet, Bicycle Program Manager

The purpose of this memorandum is to state and explain the final staff recommendation for the Nueces Bicycle Boulevard Capital Improvement Project (CIP). This staff recommendation represents a solution which is responsive to a wide array of public input and variables; and which maintains the goal of the project. The goal of the project is to preserve and enhance bicycle mobility into, from, and within the downtown area.

Background:

The importance of Nueces Street (Nueces) to the local bicycle network dates back to the late 1990's where the bicycle mobility opportunity afforded by the segment of Nueces from 3rd Street to Martin Luther King Jr. Blvd (MLK) is identified in certain City planning documents. The 1998 Bicycle Master Plan identified this street segment as the downtown portion of Bicycle Route 31, with a recommendation of bicycle lanes. The City's Great Street Plan further solidified its importance to the local bicycle network by labeling it as a "local access bicycle street". More recently the draft Downtown Austin Plan (DAP) and the update to the Bicycle Master Plan (BMP) recommended that rather than traditional bicycle lanes, the appropriate bicycle accommodation for the street be a "Bicycle Boulevard" for these reasons:

1. A bicycle boulevard facility would retain the most on-street parking.
2. The downtown location of this bicycle route and its connection to the Lance Armstrong Bikeway warrants a bicycle facility appropriate for all ages and levels, as well as the opportunity for creating a downtown "destination". Such a facility would contribute to the downtown specific goals of the DAP¹, as well as the more

¹Downtown Austin Plan, Issues & Opportunities by District, Northwest District, Pg. 3,
http://www.ci.austin.tx.us/downtown/downloads/district_analysis_report_1-27-10_core-nw.pdf

broad goals of the Family and Children’s Task Force Report², Climate Protection Plan³, 2007 Street Smarts Task Force⁴, and Health and Human Services Department goals.

3. There is a need to preserve and enhance the bicycle mobility between the Austin Community College (ACC) and The University of Texas (UT) campuses.

4. Traffic growth on Nueces is limited by the current “ring of congestion” on arterials adjacent to the Central Business District (CBD). A key finding of the Central Austin Circulation Study⁵ is that “...the arterial roadways serving the Central Business District (CBD) are at capacity and have a limited ability to move additional vehicles into and out of the CBD.” Therefore, the provision of sustainable transportation choices will be key to future mobility to, from and within the CBD. A signature north/south bicycle facility in downtown Austin will complement the east/west Lance Armstrong Bikeway to enhance mobility for existing bicycle users and assure Austin residents transportation choices in the CBD into the future.

5. Existing land uses are predominantly “appointment-oriented”, making the use of a bicycle boulevard and the local motor vehicle access focus appropriate.

6. The bicycle boulevard will also provide connectivity to the Pfluger Bridge Master Plan bicycle/pedestrian facilities (the Pfluger Bridge Extension and the Bowie Underpass), which combined with the connection to the Lance Armstrong Bikeway mentioned previously, provide an impressive implementation of the planned bicycle network for this area.

A Bicycle Boulevard is a street optimized for bicycles, accessible to motor vehicles, and attractive to bicyclists and pedestrians of all abilities. Unlike traditional bicycle lanes, traffic calming devices and place-making techniques are used to create a distinctive look and/or ambiance such that bicyclists become aware of the existence of the bike boulevard and motorists are alerted that the roadway is a bicycle route. The result is a more pedestrian and bicycle-friendly street where motor vehicles have access, share the road with bicyclists, travel at slower speeds, and may choose to use other near-by streets if through travel, rather than local access, is the goal. A Bicycle Boulevard does not change the capacity of the roadway, but rather the operating characteristics which favor local motor vehicle access, lower motor vehicle speeds, bicycle mobility, and pedestrian use. An approximate speed differential of no more than 15 mph between bicyclists and motorists is preferred. While there could be a reduction in through traffic volume, our local experience with traffic calming, as shown by an evaluation of Austin’s Neighborhood Traffic Calming Program, has seen an average speed reduction of 19%, with no statistically significant change in traffic volumes.

Bicycle Boulevards exist throughout the country⁶, and take a different, context-sensitive form in each location. Best practices for bicycle boulevards recommend low speed limits and an average daily traffic no higher than 4,000⁷ trips per day. Additionally, measures to achieve traffic volumes in the range of 1500 per day are preferred⁷. All bicycle boulevards across the country have a combination of both traffic calming devices and site specific place making that make the bicycle boulevard unique and responsive to its respective location, with the common theme of enhancing bicycle mobility. With an average daily traffic of 3,400 motor vehicles per day and high bicycle use⁸, Nueces today does meet most of the criteria for the implementation of a Bicycle Boulevard. However, after further research and public input, it was determined by staff that Rio Grande Street should be considered as part of Bicycle Route 31 and that the Bicycle Boulevard would be more appropriate for application to both streets with a different, context sensitive, implementation for each street. The following considerations went into the staff recommendation:

² Families and Children Task Force Report, Pg. iii, 12, 22, 34, http://www.ci.austin.tx.us/council/downloads/factf_report.pdf

³ City of Austin Central Austin Mobility Study, Executive Overview, http://www.ci.austin.tx.us/acpp/downloads/acppplan_overview.pdf

⁴ City of Austin Resolution No. 20080424-063

⁵ City of Austin Central Austin Circulation Study Executive Overview, Pg. 2,

http://www.ci.austin.tx.us/transportation/downloads/central_austin_circulation_study_final_8-3-09.pdf

⁶ Albuquerque, NM; Eugene & Portland, OR; Palo Alto, Berkeley, San Luis Obispo, Emeryville, CA; Minneapolis, MN; Wilmington, NC

⁷ Fundamentals of Bicycle Boulevard Planning & Design, Alta Planning, <http://www.ibpi.usp.pdx.edu/media/BicycleBoulevardGuidebook.pdf>

⁸ The 2010 bicycle modal split at the pm peak hour traffic is 9%

1. **Motor Vehicle Pressures on Nueces:** While previous City plans recognize its importance to the bicycle network, proposed large-scale projects and related sub-area plans have evolved to indicate increased motor vehicle traffic pressure on Nueces (for example, its future planned extension to Cesar Chavez and the extension of 2nd Street to the Seaholm site). This could not be ignored and was studied more in-depth in finalizing the recommendation for the implementation of Bicycle Route 31 through the downtown, specifically related to the use of traffic calming devices.
2. **Traffic Calming Tools:** The available tool-box of traffic calming devices appropriate for both Nueces and Rio Grande was determined by an internal City staff review process along with relevant partner agency and emergency response personnel. While partial or semi diverters (diverters) and pinch-points are approved devices, there were limits to their location (diverters) and later to their appropriateness (pinch points) in this downtown context. For example, south bound diverters were not an option due to emergency response and Capital Metro needs and north bound diverters were also not an option between 8th and 11th street due to the operations of the Travis County Criminal Justice Center. The effect of possible traffic diversion onto Rio Grande St (Rio Grande), coupled with property/business owner concern with these devices also was considered.
3. **Rio Grande Possibilities:** There was overwhelming interest during the public input process to consider a Rio Grande alignment. A re-evaluation of Rio Grande presented new, positive information with regard to the creation of a Bicycle Boulevard. First, southbound left turns from MLK are currently prohibited, resulting in lower vehicle volumes. To improve bicycle connectivity we have clearance for an innovative “bicycle only left turn bay” at the corner of MLK and Rio Grande. Second, Rio Grande currently carries 24% less traffic than Nueces and is more likely than Nueces to retain its Bicycle Boulevard characteristics into the future, as it has less future motor vehicle pressures by not having additional road connectivity and is likely to have less re-development. Additionally, Rio Grande also experiences high bicycle use.⁹ Third, the existence of four schools (ACC, Khabele, St Martins, and Pease Elementary) invites traffic calming and bicycle and pedestrian improvements. We also explored the bicycle connections north of MLK and are studying the feasibility of a two-way bicycle facility on Rio Grande to continue the bicycle boulevard alignment through west campus. Lastly, to further improve bicycle connectivity, we determined that a new bicycle/pedestrian bridge connecting Rio Grande to the Lance Armstrong Bikeway/Shoal Creek Trail at 4th St is feasible.
4. **Bicycle Lanes for Nueces:** The current traffic volumes on Nueces are near the high end of acceptable Bicycle Boulevard levels for beginner/child (B/C) bicyclists. This coupled with the future motor vehicle pressures on Nueces make a Bicycle Boulevard without diverters and reduced volumes not appropriate for B/C bicyclists. Therefore, bicycle lanes are the proper tool except close to the Travis County Criminal Justice Center, where there is high on-street parking demand (see Shared Lane Marking discussion below). Bicycle lanes are compatible with higher motor vehicles volumes and speeds. Because a goal of the project is to create a bicycle route suitable for all level and ages of bicyclists, we propose to install enhanced bicycle lanes (for example, colored lanes) for improved protection against “right hook” type of motor-vehicle/bicyclists collisions and for heightened awareness to the presence of bicyclists. Bicycle lanes on Nueces are a safer facility for all bicyclists than current conditions by providing dedicated space as some riders currently duck into empty parking spaces and/or ride in the “door zone” adjacent to parked cars. Lastly, bicycle lanes improve motor vehicle mobility by allowing the motor vehicle and bicyclists to ride side by side, whereby the motor vehicle speed is not limited by a bicyclists speed.
5. **Shared Lane Markings or “Sharrows” for Nueces:** For portions of Nueces which serve the Travis County Criminal Justice Center (high on-street parking demand), shared lane markings or “sharrows”

⁹ The 2010 bicycle modal split at the pm peak hour is 5%

are the preferred tool for street segments where on-street parking and bicycle mobility must co-exist. The sharrow is proven to be an effective facility for this context¹⁰.

6. **Future Capital Improvement Projects for Nueces:** There is a water line replacement and storm water system improvement project scheduled for spring 2011 and for future programming as funding becomes available (ideally within the next 10 years), respectively. During the public input process, the timeline for the water line project became firm, making any significant surface infrastructure improvements to Nueces not as attractive as Rio Grande.
7. **Traffic Impact Analysis (TIA):** The TIA indicated that any of seven possible alignments and forms would have no significant impact on traffic in the area. However, a phase II study indicated that a *Rio Grande Alignment w/out Diverters* is the best alignment based on a more detailed review of traffic engineering principals including, but not limited to motor vehicle safety and mobility, motor vehicle travel time, and bicycle and pedestrian mobility and safety. The Phase II study also recommends bicycle lanes and shared lane markings be considered for Nueces because it is “a vital asset to bicycle mobility in the downtown area.”
8. **Grade:** Throughout the public process the bicyclist stakeholders expressed concern over the northbound grade on Rio Grande versus that of Nueces. However, the total elevation change for both streets is almost identical¹¹. The staff recommendation addresses this concern by the addition of enhanced bicycle lanes on Nueces, starting at 13th Street and extending to MLK. The grade on Rio Grande becomes a factor at about 14th Street, making the transition on 13th or 14th Streets (which are flat) available for bicyclists and would allow them to avoid or enjoy the grade. Bicycle connectivity to Guadalupe St or back to Rio Grande is possible by utilizing the bicycle lane installed on MLK in 2009.
9. **Bicycle Network:** Bicycle accommodations on both streets implement the City’s bicycle network more completely than a Nueces only option, given that both streets experience a significant bicycle modal split. Connectivity to another planned signature bicycle facility on Rio Grande, north of MLK is captured in this staff recommendation, along with overall connectivity in the area to the Pfluger Bridge Master Plan for bicycle and pedestrian facilities, including the Lance Armstrong Bikeway, the Pfluger Bridge Extension, and the Bowie Underpass.

Process:

The first mention of the designation of Nueces as a bicycle route dates back to the late 1990’s with the process which created the 1998 Bicycle Master Plan and the 2000 Great Streets Plan. Subsequent to that, the Downtown Austin Plan and Bicycle Master Plan public input process began in 2007, lasting approximately two years and including numerous public meetings and public hearings. In November 2009, with the completion of the Lance Armstrong Bikeway (LAB) nearing, City staff decided to begin the implementation of Route 31 through the downtown (Nueces) because of its important connection to the LAB. Notification was sent to area stakeholders to announce the project and request input from them on the design of the project. From December 2009 through January 2010, the City held three public input meetings at Pease Elementary. The meetings were well attended by all stakeholders, bicyclists and property/business owners alike. During that time City staff collected input through phone calls, e-mails and written comments on materials provided at the public input meetings. Additionally, a project steering committee was formed with representatives of a broad range of stakeholders.

Additional public awareness is necessary when going from “Plan” to “Project”. The process for this CIP was designed to inform all stakeholders about the project and allow sufficient time to gain input on how to design the project to meet all stakeholder needs; especially those who may not have been involved with the previous planning processes (1998 Bicycle Master Plan, Great Street Plan, Downtown Austin Plan, 2009 Bicycle Master

¹⁰ Effects of Shared Lane Markings on Bicyclist and Motorist Behavior along Multi-Lane Facilities, University of Texas Center for Transportation Research

¹¹ From 4th St to MLK Nueces has 94 feet of elevation change and Rio Grande has 114 feet

Plan). The result of the process is a better project, which design is unique and responsive to detailed public input and community needs.

Staff Recommendation (see Exhibit A):

The staff recommends that both Rio Grande Street and Nueces Street together, in the northwest district of the downtown, be designated as the Downtown Bicycle Boulevard with no traffic calming tools implemented on Nueces Street. The following recommends infrastructure and phasing for both Nueces and Rio Grande streets:

Infrastructure Recommendations:

1. Rio Grande - 4th St to MLK:

Segment	Recommendation
4 th St to MLK	Street resurfacing; 25 mph speed limit; spot ADA improvements; install shared lane pavement markings; install regulatory and place making signs as appropriate; tree planting as feasible; minimal parking modification as needed related to installation of traffic calming devices
4 th St & Rio Grande	Install a new hike and bike bridge over Shoal Creek to the Lance Armstrong Bikeway/Shoal Creek Hike and Bike Trail
5 th St & Rio Grande	Install a new traffic signal
5 th St to 6 th St	Convert angle parking to back-in angle parking (reverse angle parking)
11 th St to 12 th St	Install inset drop off/pick up zone for Pease Elementary; re-route Capital Metro Bus #3 if feasible
11 th to MLK	Re-route Capital Metro Bus No. 3 as per Capital Metro Service Plan 2020
12 St to 13 th St	Install inset drop off/pick up zone for Austin Community College
7 th St to MLK	Install traffic calming devices (an array of traffic circles, medians with speed cushions, speed cushions, and pedestrian curb-extensions); Implement “green streets” storm water treatment vegetation with traffic calming devices as feasible; minimal parking restrictions as needed
MLK & Rio Grande	Install “bicycle left only bay” for southbound bicyclists at the intersection of MLK, Jr. and Rio Grande

2. Nueces - 3rd St to MLK:

Segment	Recommendation
3 rd St to MLK	Install regulatory and place-making signs as appropriate; 25 mph speed limit if feasible
3 rd St to 7 th St	Install a Great Streets cross-section with includes Great Streets sidewalks, motor vehicle lanes, and enhanced bicycle lanes
7 th St to 13 th St	Install shared lane markings “sharrows”; remove some north/south stop signs if feasible
13 th St to MLK	Modify on-street parking to one-side of the street only and install enhanced bicycle lanes

Phasing:

- Rio Grande recommendations to begin construction in Fall/Winter 2010, with exception of the bus re-routing which timeline will be determined in coordination with Capital Metro. Details of project progression to be determined with input from local stakeholders.
- Nueces recommendations 3rd to 7th to be implemented as Great Streets project implemented by private development and/or the City of Austin.
- Nueces Street recommendations 7th to MLK to be installed with the upcoming water line project, at the final stages of that project, projected for Spring 2012.

Cost: The staff recommendation for the Downtown Bicycle Boulevard construction is estimated to be approximately \$670,000. Cost increases above the original Nueces only plan includes a new bicycle and pedestrian bridge over Shoal Creek, a new traffic signal at 5th St and Rio Grande, and parking/mobility flow improvements (construction of inset drop off/pick up zones) for both modes through the Pease Elementary and ACC areas. Source of funding is bond specific funding for bicycle plan implementation.

Additional Comments:

- The size of the traffic circles to be determined by size of emergency response vehicles, engineering judgment, and stakeholder input.
- The enhanced lanes and shared lane marking installation may be subject to approval by the Federal Highway Administration prior to installation. If color is used, specific color to be decided by engineering judgment and stakeholder input.
- Determination of what side the on-street parking will remain on Nueces, 13th to MLK, will be determined by engineering judgment related to motor vehicle and bicycle mobility and safety and stakeholder input.
- The Green Streets pilot project will be a partnership between the City Public Works and Watershed Protection Departments.
- The City Bicycle Master Plan will be amended to add Rio Grande Street from 4th St to MLK as part of Bicycle Route 31.
- Pending the results of the economic study, this staff recommendation could be subject to change prior to presentation to the City Council on May 13th, 2010.
- The Project Steering Committee (a nine member committee) reached consensus (minus 1 vote) on improvements to Rio Grande; their consensus recommendation was silent with regard to Nueces. The following is the statement which represents the Consensus (-1 member): **“Traffic calming on Rio Grande Street that imposes minimal impact on vehicular mobility, capacity, and parking and ensures safe and convenient passage for cyclists and pedestrians.”** See Exhibit B for a statement from the Steering Committee facilitator.
- This recommendation is DRAFT pending input from the City Boards and Commissions process.