

We regret the few days delay in submitting this final draft of our traffic management recommendations to you in support of the closing of Riverside Drive. Paul Mullen was sick all last week, and we were unable to do a proper consultation until this morning.

1) At the intersection of Barton Springs Road and Lamar, reconfigure the current two-way left turn lane east of Lamar. Forbid the eastbound left turn onto Lee Barton (almost impossible, anyway) and the left turn into the western driveway of the Daugherty Arts Center and dedicate the left turn lane to feed the two westbound left turn lanes at the intersection. A short eastbound left turn bay from BSR into the Daugherty access at Dawson will be needed, and beyond that (no more than 150 feet west of the Dawson intersection), the lane can be dedicated to westbound left turners. This will remove from the through traffic lanes all traffic intending to turn left at Lamar before it reaches the railroad bridge bottleneck. Bear in mind (and make sure the model shows) that there would be minimal eastbound traffic waiting to turn left onto the now truncated Dawson, which now will just serve the Daugherty Arts Center.

2) At the intersection of Barton Springs Road and Lamar, extend the westbound right turn lane from BSR onto Lamar. The extended lane can begin as far east as Dawson and can pass between the two structural buttresses on the north side of the railroad bridge. This would require the removal of some dirt under the railroad bridge, possible addition of a retaining wall, and some widening of the bridge over West Bouldin Creek. Realign sidewalk in front of Daugherty Arts Center to make room for this lane. A small strip (which may fall within existing ROW) would need to be taken from the existing KFC frontage between the bridge and Lee Barton Drive. This extra lane would move right turners out of the two main westbound lanes, absorbing the anticipated additional traffic redirecting from westbound Riverside. Until we are able to determine the length of lane needed, for modelling purposes assume lane extends back beyond Dawson - this is unlikely to be needed but would avoid need for additional model runs should congestion tailback further than anticipated.

3) A variant of the above (probably too expensive to consider) would be to realign the eastbound lanes of Barton Springs Road to use the trestle span to the south of the existing roadway and then devote the existing roadway to westbound traffic.

4) At the triangle intersections of S. First, Barton Springs, and Riverside, eliminate the left turn from westbound Riverside onto Barton Springs, instead directing that traffic to proceed straight across BSR, turn left onto S. First and then right onto westbound Barton Springs. This would shorten the light cycle at the Riverside/BSR intersection and allow the westbound traffic to BSR to be served by both the BSR and S. First green time at the intersection of the latter two streets. Convert middle westbound through traffic lane on Riverside entering the South First intersection to a second left turn lane.

5) Alternatively, at the triangle intersections of S. First, Barton Springs, and Riverside, institute one-way flow on the Riverside (eastbound) and Barton Springs Road (westbound) segments of the triangle, with traffic controls as needed. This should allow westbound BSR traffic to make use of the right turn from S First southbound to BSR westbound. This may require a second right turn lane here. The advantage is that southbound traffic on South First would only have to wait for the eastbound traffic on Barton Springs (which would be synchronized with the light for westbound traffic on Riverside) while that eastbound traffic would have more road space. This was an idea that arose not only in the stakeholder group but also previously within the Traffic Dept. (after the modeling was finished). In this scenario, the second left hand turn lane mentioned above would

clearly be desirable. Preliminary examination of impact on light timings will be needed to distinguish between this and previous suggestion.

6) Subject to study of impact on intersections, at the intersection of S. First and Cesar Chavez, allow a left turn (except during PM peak period) off northbound S. First onto westbound Cesar Chavez, converting the currently unused Chavez pavement to two-way between S. First and San Antonio, where two-way traffic now begins. This would require the construction of a left turn lane inside the triangle at the north end of the bridge. If allowing this left turn means having to lengthen the red time for southbound Guadalupe at Cesar Chavez, and if there is already a serious stacking problem there, we would probably not want to allow this movement during p.m. peak. But at a.m. peak and at all other times of the day, this would enable Chavez to be used as an excellent alternative to Barton Springs Road for existing Riverside demand.

7) To address the demand for westbound capacity in the Town Lake area anticipated by 2005, (demand originally recommended by staff to be serviced by the rebuilt Riverside Drive), model the presence of the extension of the Pflugger Bridge over Cesar Chavez, thus eliminating the need for the long red at the intersection of Chavez and B.R. Reynolds which currently exists to allow pedestrian crossing of Chavez. Our examination of the DAMP model in that area showed that this could very well add near the equivalent capacity of a new westbound lane to the system, which by itself would absorb the westbound Riverside demand. With the bridge complete, we could completely eliminate the pedestrian crossing cycle at the Cesar Chavez lights.

8) As a short-term measure alternative to #7, try a "split crossing" for pedestrians crossing Cesar Chavez at B. R. Reynolds. The idea is to reduce the pedestrian phase by separating the pedestrian crossing of the east and westbound lanes into two separate signal controlled crossings. This is now standard practice in the UK - consult your English engineer for design standards. Typically a barrier rail is used and the two crossings staggered slightly, so that people don't just rush across the second part without looking at the light. Then the pedestrian time can be reduced to just the time needed to cross two lanes of traffic, not four plus a median. The times can also overlap the left turn times - pedestrians crossing the westbound lanes of Cesar Chavez while eastbound Cesar Chavez traffic turns left onto B.R. Reynolds, and crossing the westbound lanes while traffic turns left from B.R. Reynolds onto eastbound Cesar Chavez. Please supply data on the existing timings of these lights.

A couple of pieces of background data needs to be revisited. The vast majority of the increase in traffic forecast from 2000-2005 is due to the anticipated load from new development projects downtown, with only slight deltas attributed to background increases. The new development load, forecast to be over 10% of existing load, was assigned uniformly through the models as increased demand. But the City's own origin-destination data for travelers on westbound Riverside show that the vast majority of that traffic is not bound for downtown, but rather is avoiding downtown routes from southeast Austin toward Mopac and other points northwest. There is no support for the notion, then, that the 10% increase in traffic load due to new downtown destinations should be also assigned to the Riverside load. Anticipated Riverside demand should increase only at the level of the background delta.

Another aspect of the background data that needs to be addressed is the ability of drivers to choose the best route, so as to minimize congestion and respond to emerging patterns of congestion. We need to

be very careful that the diverted Riverside traffic is assigned to the best routes. In a perfect world the model would iterate through congestion and assignment phases to achieve this, but since this model has no assignment model, and assignments have to be done manually, it is crucial that they are done with full knowledge of the likely congestion on each route. Synchro may be very helpful here. One particular area to consider is the relative weights of assigning traffic to Lamar, South First, and Congress, since some optimizing crossing movements outside the study area are likely. Another, on a smaller and easier scale, is the propensity of people to utilize our proposal #3, even if the left turn prohibition onto Barton Springs is not implemented. This could be tuned with signal synchronization measures as well.

Be sure to include in the modeling the simplification of the intersections of Riverside with both Lamar and S. First resulting from the elimination of through traffic on Riverside. Include as well the impact on the intersection of Lamar at Riverside of having the Pfluger bridge now dump onto a more bicycle/pedestrian friendly landing. We anticipate many fewer crossings of Lamar at that intersection by pedestrians and bikes, due to the increased safety of continuing south from the bridge, thus enabling the shortened red light cycle on Lamar.

That summarizes our initial concrete suggestions for the modeling runs.

We must emphasize that these are just suggestions, and that not all may be productive. To make best use of this effort, we would like to take another look to see what the base case traffic flows look like, once all the other Traffic Department recommendations have been processed. That will start to give us some idea of where the pinch points are going to be, where diverted traffic is most likely to go, and therefore what modifications are going to be necessary. We would like to take a look at how our suggestions, and any others the staff and WHM come up with, are playing out in the Synchro runs, so we might be able to help define the most appropriate package of suggestions and fine tune before the package goes into CORSIM. And we would like to make sure there has been no misinterpretation of our suggestions, as is always possible when the communication bandwidth is limited.

We would like also to repeat three of points made in the discussions with Lisa Gordon and Gordon Derr regarding evaluation of the results. First, as with the staff's original suggestions for downtown, some of these ideas could be implemented in the short term, to address the short term impacts of immediately closing Riverside Drive through Town Lake Park. Others, like the Pfluger Bridge extension, would obviously take longer to implement, but could be put on line by the time the anticipated increases in traffic demand actually arrive. We do not need to solve the 2005-2008 problem in 2002, so long as we can reasonably well handle the 2002 problem in 2002 and the 2005-2008 problem in 2005-2008.

Second, the metric for satisfaction should not be zero net increased delay. Clearly, this metric was not applied to the downtown package, as increased delay is pervasive in the recommended improvements. Some level of increased congestion due to the closure of Riverside Drive should be tolerated, just as congestion due to the implementation of Great Streets is being tolerated. The larger social goals justify this.

Third, some of the staff's current recommendations actually decrease travel times, and while not part of the Great Streets proposal per se, they are mitigating measures that offset part of the delay caused by Great Streets proposals. Similarly, some of our recommendations are

only secondarily related to Town Lake Park, but offset anticipated delay from closing Riverside. The same motivational justifications must be applied for both Great Streets and Town Lake Park. Our proposals should not be taken out of the equation, leaving the Riverside Drive closure to stand on its own as a delaying factor, just as Great Streets was allowed a counterbalance with downtown traffic control measures and is not required to stand on its own.

We sincerely appreciate the City Manager's office recognizing the social benefit of realizing the Town Lake Park Master Plan in its entirety and recommending that traffic management measures be sought to achieve the closing the segment of Riverside Drive passing through the heart of our new small central park.