December 21, 2009

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Cc: Honorable Jessica Farrar, State Representative
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Honorable Sylvia Garcia, Commissioner Precinct 2, Harris Cty
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Re: TxDOT project # CSJ 0271-07-242
Proposed IH-10 frontage roads Washington Ave to Taylor St

TxDOT project # CSJ 0271-07-292
Proposed flood mitigation (detention) ponds along the White Oak Bayou watershed

Dear Sirs:

Please find below formal comments and a public hearing request for the proposed IH-10 frontage roads and detention ponds from the members of the Citizens’ Transportation Coalition (CTC).

Thanks and best regards,
Robin Holzer, Chair
Citizens’ Transportation Coalition (CTC)
m (713) 301-5716
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**RELATED IH-10 PROJECTS**

For reference, TxDOT is proposing to advance five related roadway projects along IH-10 inside the IH-610 loop to receive stimulus funds under the American Recovery & Reinvestment Act (ARRA).

Please note that the corresponding detention project is NOT currently proposed to receive stimulus funds.

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PROJECT TIMING: BUILD DETENTION FIRST

First and foremost, both City of Houston and Harris County Flood Control District standards require that detention must go in prior to or as part of a relevant roadway project.

On sheet 730 of the drainage plan for the IH-10 frontage road project, TxDOT asserts:

“For hydrologic impacts, additional detention ponds will be constructed upstream of the proposed bridge under another project CSJ 0271-07-292.”

The above-referenced detention project is not proposed to receive stimulus funds, and our understanding is that it is NOT scheduled to move forward for some time. (That TxDOT has repeatedly represented those ponds as relevant only to the proposed Washington Avenue expansion and not the IH-10 project is another matter.)

Constructing new frontage roads where there are none today will significantly increase impervious cover in the White Oak Bayou watershed. Considering the potential adverse flooding impacts to adjacent neighborhoods, it is imperative that TxDOT construct all necessary detention ponds for new frontage roads before or contemporaneous with their construction. If the detention ponds cannot be ready on the same timeline as the frontage roads, we urge TxDOT to delay construction of the frontage roads.

Further, project engineer Alan Wang adds on sheet 730 as of June 3, 2009:

“Coordination with the local floodplain administrator is ongoing.”

It is imperative that Harris County Flood Control deem the design and mitigation elements of this project adequate before TxDOT moves forward.

FRONTAGE ROAD PROJECT IS NOT SHOVEL READY

The proposed IH-10 frontage road project is on TxDOT’s contingency list for stimulus funds under the American Recovery & Reinvestment Act of 2009 (ARRA). In order to qualify for stimulus funds, a project must be “shovel ready,” meaning ready to let contracts, by March 2010. CTC members are concerned that the proposed IH-10 frontage roads cannot be shovel ready by March, for two reasons:

Several design issues remain outstanding

TxDOT has represented the IH-10 frontage road project as “ready to let.” However, in a cursory review of TxDOT’s draft design plans and schematics, we identified several critical issues with the current design, including:

• Replacement frontage road bridges over White Oak Bayou west of Studemont are proposed below the effective base flood elevation, a level that violates the City of Houston Floodplain ordinance and will contribute to neighborhood flooding;
CTC comments on TxDOT proposed IH-10 frontage roads, detention

- Significant fill and a new retaining wall proposed near Patterson and Kolb would effectively dam off White Oak Bayou from spilling into IH-10, significantly reducing the effective flood storage capacity of White Oak Bayou; however, the current project does not include adequate mitigation for this loss of flood storage capacity; and

- The proposed eastbound exit ramp to Taylor, though short, is adequate today because there is no frontage road; but when ramp traffic must compete with eastbound frontage traffic, the merge distance between the ramp and the intersection will be inadequate, increasing traffic conflicts and crash risk.

These and other design issues are explained in more detail below. It is incumbent on TxDOT to resolve these issues prior to committing this project to concrete. We are concerned that TxDOT does not have time to adequately resolve these issues and comply with the stimulus funding deadline in March 2010.

Public participation is not yet adequate

The Citizens’ Transportation Coalition (CTC) has attracted more than 1,500 Houston-area individuals who share our belief that public participation makes better projects. We believe that project planning and public participation must be inextricably linked in order for transportation investment to improve quality of life in our neighborhoods.

Given the IH-10 frontage road project’s location in the sensitive White Oak Bayou watershed, neighborhood concerns over flooding impacts, and widespread new development in the project area, it is incumbent on TxDOT to meaningfully engage the public in the final planning of this project.

While we appreciate that TxDOT has brought selected design documents to a handful of local meetings, and made documents available at their offices, TxDOT has not held a formal public hearing regarding this project since 2003. Six plus years is too long ago.

TxDOT conducted one combined public participation and environmental review process for both the Katy Freeway expansion and the proposed frontage roads inside the IH-610 loop. Media coverage of the project focused almost entirely on the controversial widening and managed lanes proposals. In reviewing the public comments documented in the FEIS reevaluation, we found nearly 350 commenters, but just one who mentioned the proposed frontage lanes. It is clear that residents of the neighborhoods between Washington Ave and Taylor St did not participate extensively in this process.

Further, one of CTC’s volunteers owns property in the project area, directly adjacent to IH-10 at Cornish Street and the UPRR bridge. However, she has not received any official notice by mail from TxDOT about anything at all since the late 1990s. Area residents and property owners have a right to participate in the planning of this project. If TxDOT has not notified affected residents in a decade, it’s obvious that this project will not be on their radar screen.

Finally, the previous meetings were held outside the IH-610 loop, which was convenient for the neighborhoods affected by the Katy expansion, but was not in the area of immediate impact for the proposed frontage roads.
We therefore urge TxDOT to conduct a formal public hearing in January 2010:

- at a location convenient to the affected neighborhoods between Washington and Taylor,
- to present current design schematics, elevations, and other plan documents,
- for both the frontage road project and the proposed flood mitigation ponds,
- to address public concerns prior to letting contracts for either project.

The department should also make all detailed planning documents available online (both draft and final) in an easily accessible format such as PDF.

To sum up, TxDOT has significant work left to do to make this project ready. In the meantime, there are other projects on TxDOT’s contingency list that will be better uses of stimulus funds and are more ready to go.

**ADDING FRONTAGE ROADS LACKS MERIT**

Finally, there are several arguments for not pursuing the IH-10 frontage project at all:

*Opportunity costs of construction*

The $88 million TxDOT proposes to spend adding frontage roads to IH-10 between Washington and Taylor could be much better spent on another project that either:

- performs much-needed maintenance on the existing system, or
- addresses a bottleneck on the existing system.

There are other projects on TxDOT’s contingency list that would be better uses of these stimulus funds.

*Engineering best practice discourages the addition of frontage roads*

The Texas Transportation Commission revised TxDOT’s design guidance in 2001 to recommend NOT constructing frontage roads along highways where they do not already exist. TxDOT offered this explanation for the new policy:

> What information indicates frontage roads have a negative impact to the operations of a freeway?

Engineering experience in planning, designing and constructing freeways with continuous frontage roads has shown negative impacts to the efficient operations of the state highway system. Frontage roads often result in commercial and private development immediately adjacent to the freeway. This consistently leads to numerous access problems, main lane speed reductions, safety concerns and overall operational problems to the freeway. The result is the freeway reaches capacity much sooner. Limiting the
construction of frontage roads along freeways will increase mobility by extending the operational use of the roadway.


The Commission subsequently withdrew the revised policy under pressure from those who mistakenly believed frontage roads were necessary to “create” economic development (see next point). However, the practice of building highways without frontage roads remains best practice across the US and around the world. Several organizations, including the Greater Houston Partnership, recognized its wisdom and endorsed the short-lived policy.

Economic development along frontage roads – especially retail development – induces ingress and egress on freeways. This in turn depresses main lane speeds and multiplies traffic conflicts, raising the crash rate. Similarly, driveway turning movements induce congestion and crashes on frontage roads. Retail along frontage roads is extremely inaccessible to pedestrians and cyclists, and difficult to serve with transit, inducing more single-occupant vehicle trips and vehicle miles traveled (VMT). Nowhere are these phenomena more evident than the Katy Freeway west of IH-610. The “remedy” was a costly $2.9 billion expansion of this segment.

In short, maintaining the current configuration of IH-10 will maximize the effectiveness of main lanes, maintain a higher level of safety, preserve quality of life in the surrounding neighborhoods, and save tax dollars.

**Frontage roads do not create economic development**

A few proponents assert that frontage roads are desirable because they “create” economic development and in turn increase tax revenues. Unfortunately, this is untrue.

In fact, a 2005 study by the US Government Accounting Office found that while a project like this will likely “create changes in how nearby land is used or developed,” appearing to spur economic growth, it generally “represents a transfer of economic activity from one area to another.” (USGAO. Jan 2005. Highway and Transit Investments: Options for Improving Information on Projects’ Benefits and Costs and Increasing Accountability for Results). In short, building additional frontage roads on IH-10 will ** lure commercial activity away from more-accessible thoroughfares nearby** where it belongs, without creating any additional economic development.

**Adding frontage roads will increase ongoing maintenance expense**

TxDOT must recognize that adding pavement expands roadway system inventory and increases the state’s maintenance burden exponentially. The current project plan includes only the short-term capital construction cost of the proposed frontage roads. It fails to recognize the long-term ongoing maintenance costs of this new pavement.
FRONTAGE ROAD DESIGN ISSUES AND CONSIDERATIONS

In the absence of a timely public forum, a handful of volunteers have reviewed some of TxDOT’s current design schematics and elevations. We have identified a number of design issues which concern us. We explain them in the sections below, working from west to east.

Minimizing noise impacts to Memorial Park

With more than 10 million park visits in 2009, Memorial Park is Houston’s premier urban greenspace. However, despite federal statutory protections, the park’s serenity is already assaulted by significant noise impacts from IH-10 and IH-610.

The current project does not propose work in this section. In future, it is imperative that TxDOT avoid the design or construction of additional elevated structures near Memorial Park in order to minimize additional noise impacts.

Current: depressed section of IH-10 adjacent to Memorial Park at Washington Ave
Washington Avenue and UPRR crossing

CTC members support TxDOT’s 2006 decision to eliminate proposed elevated frontage roads over the UPRR adjacent to Cottage Grove Park and the Woodcrest neighborhood.

Current: depressed IH-10 crossed by UPRR at grade adjacent to Cottage Grove park

Cottage Grove pedestrian bridge

Current: pedestrian bridge over IH-10 near Cottage Grove park
**TC Jester and Stevenson Elementary**

Landscaped earthen berms along the depressed sections of IH-10 are a neighborhood-friendly strength of the original roadway design. We urge TxDOT to preserve and enhance the organic nature of IH-10 as much as possible. The current design includes a great number of concrete elements that could be functional and more attractive if landscaped:

- Preserve landscaped side slope/embankment between main lanes and frontage lanes/ramps.
- Increase forestation with native species by re-planting berms to mitigate main lane noise impacts to adjacent neighborhoods between Washington and Patterson.
- Landscape gore points with permeable pavers or softscape, rather than riprap concrete.

**Current:**

![Current Image](image)

**Design must protect north-south bicycle and pedestrian connectivity**

TC Jester is an important north-south bicycle route, as are Heights Blvd, and Patterson. The current plans do not appear to include signage on frontage roads approaching these intersections to alert drivers to expect bicycle traffic on these north-south bike routes. See plan sheets #1371, #1372, and #1377. We urge TxDOT to work closely with the City of Houston's Bikeways Coordinator to ensure that the new roadway design does not adversely impact north-south bicycle and pedestrian access.

We also urge TxDOT to adjust the design speed of the east- and west-bound frontage roads down to the 30-35 mph of an urban collector, rather than the 50 mph of a rural highway. Reducing the design speed will not affect the majority of motorists who abide the posted limits, but will effectively reduce excessive speeding. Reducing the effective
speed on the frontage roads will increase the likelihood that cyclists survive any crashes with frontage road motorists.

**Pedestrian bridge between TC Jester and Durham**

Existing pedestrian bridge between TC Jester and Durham, west of Reinerman, is located in an awkward and extremely dangerous location for pedestrians. Requires pedestrians to cross frontage lanes between high-speed ramps with no protection. Safer alternatives could include:

- Rebuilding the pedestrian bridge and lengthening it to span across frontage roads;
- Adding pedestrian signals, sidewalks, and crosswalk pavement markings to make pedestrian mobility safer at this location; and/or
- Adding significantly wider sidewalks and curb ramps to the TC Jester and Durham bridges.

**Current:** Pedestrian bridge located between high-speed on- and off-ramps
Durham and Shepherd near White Oak Bayou

CTC members support the planned rehabilitation of the Durham and Shepherd bridges over IH-10. We urge TxDOT to take this opportunity to widen the sidewalks on these bridges and ensure compliance with the Americans with Disabilities Act (ADA).

Current: depressed IH-10 crossed by Durham and Shepherd at grade near White Oak Bayou
**Patterson and Kolb near White Oak Bayou**

Under extreme flood conditions, this area represents an effective spillway, where White Oak Bayou can spill into the depressed section of IH-10 as detention of last resort. It could be argued that it is in the greater public good to allow this to continue, because the value at risk of a few vehicles on the roadway is vastly outweighed by the value at risk of adjacent residential and commercial property. It would be better to flood the highway for a few hours than our homes.

**Current: depressed IH-10 crossed by Patterson at-grade near White Oak Bayou**

However, TxDOT’s current plans include adding significant fill east of Patterson to raise the grade for the new westbound frontage road, effectively creating a dam that will prevent White Oak Bayou from spilling into the depressed section of IH-10. If this is built, it will significantly reduce the effective capacity of the White Oak Bayou watershed by taking the IH-10 “offline.”

We urge TxDOT to reduce the lowest fill depth by four feet, for both the westbound frontage and the control station access road, down to BFE levels, and allow IH-10 to continue to serve as detention of last resort in a 100-year-1% storm event. At such a level, access will be maintained for the neighborhood just to the east of Bonner St. Allowing IH-10 to flood in this worst-case scenario will help protect homes, businesses, and residents in the lower White Oak Bayou floodplain.

Otherwise, TxDOT must demonstrate how it will replicate this flood storage capacity elsewhere to mitigate this loss, and it must construct alternate detention prior or contemporaneous with the construction of the frontage road dam. If this storage capacity is removed from the White Oak floodplain, 100% of the removed capacity should be mitigated by creation of adjacent detention basins. Even if less frequent storms are able to flood the freeway, 100% of the lost storage must be mitigated since during a flood event that exceeds the elevation of the adjusted overflow elevation the full freeway cross section will fill with stormwater.
TxDOT is currently proposing several detention ponds in this area. It’s in the public interest to design these detention ponds as landscaped, multipurpose recreation areas. These areas must also be designed to include public access by sidewalk at least. Please refer to previous letters and maps sent from the White Oak Bayou Association to TxDOT regarding the layout, location, and design of these detention basins.

**Pump control station**

TxDOT plans to build a pumping station and control building in this area east of Patterson. The proposed retaining wall heights at the Patterson pump station are planned for 51’, which is one foot above the FEMA determined base flood elevation at that location.

The driveway to the control station is planned as a 24-foot-wide two-way access road, when a narrower driveway would be adequate. This surfeit of pavement will attract debris and illegal dumping, becoming a public hazard. We urge TxDOT to ask the City of Houston to abandon this road and build a narrower, gated private driveway instead.

**Stormwater quality management**

By adding frontage roads, TxDOT is significantly increasing the extent of impervious cover in the White Oak Bayou watershed which will in turn increase the extent of polluted runoff. For the most part, stormwater runoff from both the mainlanes and the feeder roads is allowed to enter White Oak Bayou without any filtering or remediation, and the current plans include no design elements to mitigate stormwater quality. This needs to be corrected.

**Noise barriers**

The project plan documents show several potential locations for sound walls; however, TxDOT has not committed to build these. We urge TxDOT to take this opportunity to add noise barriers along the at-grade and elevated sections of IH-10.
**First White Oak Bayou crossing, Yale, and Heights Blvd**

As currently designed, the horizontal beams of the new frontage road bayou bridges just west of Yale are too low and are below the base flood elevation (BFE). By City of Houston ordinance, bridges must be constructed above the BFE. Otherwise, the bridges have the potential to create a damming effect and induce additional flooding in neighborhoods upstream of the bridge.

**Current: elevated IH-10 over White Oak Bayou, Yale, and Heights Blvd**

TxDOT’s own Project Development Process Manual speaks to the importance of hydraulics and hydrology in roadway planning:

“The highway designer needs to be familiar with FEMA NFIP requirements because meeting them may either control the design of a facility within a floodplain or, when encroachments (any physical object placed in a floodplain that hinders flow) are proposed, necessitate considerable analysis, coordination, and expense to acquire FEMA approval of the project. Incorporate considerations concerning FEMA rules and procedures early in the project planning stages. (See Task 2200and Task 5080 of the Project Development Process Manual for more information.)”


We urge TxDOT to work closely with the City of Houston Floodplain Administrator to ensure that the final design of these roadways does not adversely affect flooding.

We are also interested to review TxDOT’s hydrology and hydraulics model to confirm that the project as built does not raise the base flood elevation.
Second White Oak Bayou crossing and Studemont

Current: elevated IH-10 over White Oak Bayou and Studemont

This project includes replacing the two frontage road bridges over White Oak Bayou shown above. The City of Houston Floodplain Ordinance (19.43(e)(2)) allows the city engineer to issue a permit for a new or replacement bridge in the floodway if the lowest horizontal structural member will be at least 18" above the base flood elevation (BFE). However, TxDOT’s current plans do not include raising the new bridge out of floodplain as City of Houston ordinance requires. The horizontal beams of the replacement frontage road bayou bridges just west of Studemont are too low and are below the BFE.

Existing: IH-10 westbound frontage bridge over White Oak Bayou west of Studemont on June 10, 2001 after Tropical Storm Allison
Failing to elevate the new east and westbound frontage road bridges adequately means that when White Oak Bayou is peaking, the bridge structures function as dams, impeding the bayou’s flow when it’s most needed, and increasing upstream flooding in adjacent neighborhoods. This is unacceptable. We urge TxDOT to revise the design of these bridges to comply with City of Houston floodplain requirements.
**MKT trail crossing and Stude Park**

In 2006, at the request of the White Oak Bayou Association, Woodland Heights residents, and friends of Stude Park, TxDOT removed this westbound section of proposed frontage road from the current project. CTC supports TxDOT’s decision not to construct westbound frontage lanes here.

On December 19, 2009, TxDOT officially celebrated the opening of the newly-constructed MKT hike-and-bike trail. The trail follows the MKT right-of-way which is seen crossing southeast over Studemont, under the elevated IH-10 main lanes, and entering the new Target commercial center below:

**Current: elevated IH-10 over MKT trail adjacent to White Oak Bayou and Stude Park**

In order to clear the new trail and preserve the MKT right-of-way for additional future uses, TxDOT proposes to elevate the new eastbound frontage lanes over the MKT and the adjacent White Oak Bayou spillway (?).

This new elevated structure will be closer to the adjacent residential structure than the existing main lanes, which will create significant additional noise impacts for residents to the south. It will also be taller than the existing main lanes which will create significant additional noise impacts in Stude Park to the north. We urge TxDOT to revise the design to **include high-profile sound barriers directly on the elevated structures** to mitigate noise impacts to the adjacent residents and park users.
Taylor St

The existing eastbound exit ramp from IH-10 to Taylor Street is relatively short. With all current ramp traffic originating from the main lanes, the short distance is adequate.

However, TxDOT proposes to reconstruct this eastbound exit ramp in essentially the same location, despite the addition of eastbound frontage roads from Studemont to Taylor. Once the frontage road is open, eastbound ramp traffic that intends to turn right/south at Taylor (e.g. to access the Target and new commercial center there) will have to abruptly merge right across the frontage lanes to make the turn. The short distance from the exit ramp to the intersection will not allow motorists to do so safely.

We urge TxDOT either to:

• redesign this ramp to shift the exit point several hundred yards further west, or
• remove this ramp altogether and require Taylor-bound traffic to exit at Studemont.

Current: IH-10 depressed under Taylor St and current on-/off-ramps

CONCLUSION

TxDOT is proposing to advance five related roadway projects along IH-10 inside the IH-610 loop to receive stimulus funds under the American Recovery & Reinvestment Act (ARRA). There are several reasons not to build the frontage roads as proposed.

If TxDOT moves forward with these roadway projects, it is imperative that it build the corresponding flood mitigation measures prior or at the same time. We have serious concerns regarding the design issues identified above, and urge TxDOT to resolve them prior to committing these projects to concrete. Thank you for your consideration.