DOTD/LCP RESPONSE TO ETRT QUESTIONS

On December 15, 2016, the Evangeline Thruway Redevelopment Team (ETRT), through Neil LeBouef (LCG Planner), submitted three documents detailing their questions on the initial findings of the Tier II Technical Analysis conducted on the Series 4 and 6 Refinement Concept Alternatives (RCAs). The following sections outline a draft response for addressing the questions raised by the ETRT.

GENERAL CONTEXT

During the Tier I Concept Refinement Process, a total of 19 Refinement Concept Alternatives (RCAs) were developed based on extensive input from the community, CSS committees [Community Working Group (CWG), Technical Advisory Committee (TAC), and Executive Committee (EC)], various stakeholders, etc. These were grouped into six series of similar themes or ideas. The decision was made at the end of Tier I to move Series 4 (elevated mainline with ramp pairs north and south of the core area) and Series 6 (semi-depressed mainline with ramp pairs north and south of the core area) Refinement Concept Alternatives forward into Tier II, along with Concept 1A (original 2002 Selected Alternative) for comparison purposes. In order to further narrow the number of Refinement Concept Alternatives during Tier II, it was concluded that a high level technical analyses and comparison (Technical Memorandum) would be prepared that addresses engineering, broad community-related and environmental considerations.

It was understood that such a high-level, or planning-level, comparison would not answer all questions or issues embedded in the various Refinement Concept Alternatives, but it would focus on the most significant and foundational elements that could influence further consideration of the alternatives, limiting the variations between the Comparison Refinement Concept Alternatives to just the major elements. This type of approach is routinely used by DOTD (as well as major transportation agencies across the U.S.) as a project progresses from early planning stages or ideas to more definitive project design.

In comparing the Series 4 and 6 Refinement Concept Alternatives, the original idea and intent presented in each Refinement Concept Alternative was maintained as closely as possible. An attempt was not made to further refine the Alternative, but to maintain the integrity of the idea as originally presented. Existing conditions and public policies, such as current roadway classifications, municipal drainage standards, neighborhood boundaries, etc., were assumed to provide a realistic comparison.

The various questions raised by ETRT are grouped on the following pages and a brief response is given to each.

ROADWAY OPERATIONS

1. ***Wouldn't the I-49 Connector project present the ideal opportunity to lower the design speed on Johnston Street and make it more pedestrian (walkable) and bicycle friendly? At the November 30 meeting, the LCP Team indicated that DOTD and federal standards would not allow for the design speed to be lowered. Please direct our attention to the particular rule or regulation that would prohibit the re-classification of Johnston Street.***

   Response:

   We are focused on the Interstate Access whereas Johnston Street is a U.S. highway, however, DOTD has established roadway classifications that contain design speed requirements and has assigned a classification to each roadway within their network. Johnson Street is an Urban Arterial as defined by DOTD and is also part of the National Highway System. Lowering the design speed does not alleviate the concerns with the overpass. The steep grades would still present operational and safety concerns. Stopping sight distance is reduced. Some vehicles may attempt to climb from a stop and also slow down and stop on the steep grades, with intersections at the bottom of each side of the "hill". Steep grades can make both of those difficult, especially for heavier vehicles (like semi-trucks, single unit trucks, school busses, etc.). The design speed does not govern how fast the vehicles actually travel.

2. ***Could you analyze the tunnel solution to also work as an underpass solution at any of the urban cross sections (Johnston/Jefferson/Second/Third) of the I-49 Connector corridor?***

   Response:

   A profile that passes over the semi-depressed/tunnel I-49 alignment, then under the railroad would be too steep to allow for safe operation. Shifting the I-49 Connector mainline alignment further east to reduce overpass grades would have impacts on existing Evangeline Thruway, existing neighborhoods, and Sterling Grove Historic District.

Grade Issues for Bikes and Pedestrians

3. ***Why was Refinement Concept Alternative 6.2 scored poorly for bicycle/pedestrian connectivity (e.g., people having to walk or bike up an incline)?***

   Response:

   Due to pedestrian/bicycle corridor crossing grade changes. This is due to the additional grade changes required for bicycle/pedestrian connectivity cross streets going over the interstate which may go against best practices affecting public safety. Further justification of this decision includes a railroad crossing located at the base of the landing.

Connectivity for Local Roads across the Interstate

4. ***Please explain why providing a new connection via extension of Drain Street in Freetown Port-Rico (FTPR) has been categorized as a loss of connectivity when it seems to provide additional vehicular connectivity.***

Response:

The loss of direct access to properties from Pinhook Road is why the Series 6 RCA's scored lower. Indirect access is provided using Drain Street.

5. ***Please explain how a realignment of Taft Street to connect with 13th Street is categorized as a loss of connectivity.***

Response:

Realignment of Taft Street to 13th Street is scored lower in Series 6 RCAs due to 14th street losing the quality of access it once had and pedestrian connectivity will be limited by the proposed elevated Taft; however, less complex connections are available in the 4 series.

Additionally, the scoring of series 6 is not exclusively tied to Taft Street, but instead a collective issue of connectivity for local roads across the interstate.

6. ***Why have existing roads been eliminated between Taft and 2nd Streets? Given the community expressed desire to maximize connectivity in this project, why was maintaining some of those connections or adding new connections not considered as part of this analysis?***

Response:

Additional cross connecting roads are included in several PDMs, however, less complex connections are generally available in the 4 series and additional cross connecting roadway opportunities will be evaluated in those RCAs that advance into Tier III evaluation. With these eliminations comes an enhanced connectivity across the corridor greater than what exists today. In series 4, we have more connectivity opportunities and less complex connections.

7. ***If additional right-of-way (ROW) would be required for a Grand Boulevard, why was a re-alignment of the Evangeline Thruway not considered as an alternative to placing the southbound Evangeline Thruway on fill? Does a lower design speed for Johnston Street allow for the southbound Evangeline Thruway to be taken off fill?***

Response:

Tier II Evaluation and Technical Analysis did not create new RCAs to evaluate, but does not prohibit advantageous design features from being added to the concept that advances into Tier III Evaluation (e.g. Grand Boulevard).

A lower design speed on either Johnston and/or the Evangeline Thruway does not necessarily eliminate the need to place Evangeline on fill in Series 6. Design requirements to limit grades through and approaching intersections must be considered.

8. ***Please explain why the analysis did not apparently consider dedicated bicycle or pedestrian paths. Refinement Concept Alternative 6.2, in particular, seems to provide multiple opportunities and areas for bicycle and pedestrian connectivity, by the ability to place separate facilities along capped areas, or even by the inclusion of park space on the capped area that would connect either side of the corridor.***

Response:

Dedicated bicycle and pedestrian paths are addressed in several PDMs and are compatible with either the Series 4 or 6 RCAs. It is not best practice to perform significant detailed analysis in Tier II for concepts they may or may not advance forward. A more detailed refinement will be done for the concept that advances into Tier III.

UPRR Corridor Safety

9. ***What are the actual acceptable parameters for grades approaching railroad tracks? Was any analysis on possible solutions performed, including signalization that would limit queuing to a designated area further from the tracks? Why would a design feature within acceptable parameters from a vehicle perspective not be considered when allowing that design feature may have desirable benefits from a community perspective?***

Response:

Adequate horizontal landing zones before railroad crossings must be provided, and have been evaluated in the Series 6 RCAs over the semi-depressed freeway. Specific traffic analysis may be performed to size such zones, locate safety crossing features and address any unique circumstances (e.g., trapped vehicles, pedestrians, bicycles) on those RCAs that advance into Tier III Evaluation.

Evangeline Thruway

10. ***Is there a federal or state requirement that mandates that streets that function as part of a frontage road system be one-way or have limited access?***

Response:

There is no state or federal requirement that frontage roads must be one-way, or have limited access, although there are access restrictions near frontage road tie-in locations at ramp terminals.

11. ***Was there a reason that a Grand Boulevard concept was not considered within the 6 Series? Is there a possibility that a version of the Grand Boulevard could be worked into the 6 Series in the future?***

Response:

The Grand Boulevard may be considered in either of the Series. However, the Grand Boulevard for Series 4 was provided to us from the Community Work Group in Tier II. Refinement of the Grand Boulevard concept can be considered with any concept advancing into Tier III.

12. ***Will a lower more neighborhood-friendly design speed be considered for the Evangeline Thruway, regardless of which Refinement Concept Alternative alignment is chosen?***

Response:

Further consideration for a slower, more neighborhood-friendly design speed along the Evangeline Thruway can be addressed in Tier III Evaluation. A balance will need to be struck between frontage road function and roadway context.

13. ***Are improvements to the Evangeline Thruway included as part of the cost of the overall I-49 Connector project? If there will be local funding required, at what point will that decision be made and what level of input will local government have in the design and alignment choices?***

    Response:

    The Tier II Technical Memo includes basic planning level cost estimates related to reconstruction of Evangeline Thruway as a one-way couplet or Grand Boulevard. A Joint Use Development plan and entity/state agreement will be prepared after the SEIS is completed to define project elements and cost sharing needs.

14. ***Was the concept of the Evangeline Thruway as a two 2-way Couplet explored by the DOTD/LCP Team?***

    Response:

    The Concept of the Evangeline Thruway as a 2-way couplet by the DOTD/LCP Team was evaluated and found to not be technically viable for the following reasons:

    - Converting the one-way roadways to 2-way increases the safety risk because additional conflict points are created at each intersection vs separating movements with the one-way roadways. This safety risk applies to both vehicles and pedestrians.

    - At signalized intersections, the 2-way increases the movements that have to clear the signal phasing and increases congestion.

    - Also at signalized intersections, additional signal equipment will be required to handle the additional movements which will increase upfront costs and ongoing maintenance costs.

Hurricane Evacuation and Drainage

15. ***What was the extent of the preliminary design on the Series 6 Refinement Concept Alternatives as it relates to drainage?***

    Response:

    RCA 6.1 assumed collection and gravity discharge of all rainfall falling onto the mainline roadway to the Vermilion River.

    RCA 6.2 assumed collection and gravity discharge of all rainfall falling onto the open north and south segments of the mainline roadway to the Vermilion River; and a separate system to collect runoff (seepage and cleaning solutions, etc.) within the tunnel and pump it to a treatment facility.

    Series 4 concepts include closed drainage systems commonly used for elevated structures in urban areas. These would tie to trunk lines that are part of the roadway drainage system. These subsurface roadway systems would also collect runoff from the at-grade roadways and adjacent properties as is commonly used for urban roadways. These roadway systems would then gravity discharge to the appropriate outfall location.

16. ***Has any consideration been given to using portions of the corridor for dry detention, which would improve the drainage capacity of the semi-depressed roadway as well as provide space for recreational area(s)?***

    Response:

    While there is no consideration in Tier II for dry detention, the potential impacts, cost, and who would fund the dry detention could be discussed with a concept that advances into Tier III.

17. ***Are there any requirements that the I-49 connector project have no net impact on drainage regardless of concept?***

    Response:

    While there are no requirements that the I-49 Connector have no net impacts on local or regional storm drainage into the Vermilion River, depressed roadway segments flood more often as demonstrated in existing underpasses in the area.

18. ***Have any traffic analyses been run comparing the local grid network capacity to handle during evacuation events?***

    Response:

    No traffic analysis has been run comparing the local grid networks capacity to handle traffic during evacuation events, as the I-49 Connector is intended to provide that function, and has redundancy built in due to its parallel frontage road system. However, the MPO has evaluated the impacts to the local grid system with the interstate. There is an apparent positive impact to the local grid.

Emergency Response and Hazardous Materials

19. ***Did the DOTD/LCP Team evaluate the possibility of shorter covered portions of a semi-depressed roadway (Refinement Concept Alternative 6.2)? What is the length of a covered portion of a road that requires that section to be classified as a "tunnel" for purposes of FHWA or DOTD?***

    Response:

    Tier II Evaluation and Technical Analysis did not evaluate this possibility since it was not suggested in the process. Per National Fire Protection Association (NFPA) Standards, even for covered structures less than 300-feet in length, an engineering evaluation is required to determine which NFPA standards are applicable.

    For two or more shorter segments, costs could actually be greater than a single longer tunnel (e.g., two small tunnels may require two independent ventilation systems).

    Additional detail will be given overall for the concept that advances into Tier III.

20. ***How did the FHWA's tunnel manual influence the DOTD/LCP Team's assessment of Refinement Concept Alternative 6.2 as a viable option? Were any of these benefits considered?***

Response:

For the initial Series 4 and 6 RCAs, all applicable AASHTO, FHWA, and DOTD design manuals and guidelines were utilized. For RCA 6.2, additional AASHTO and NFPA design manuals and guidelines were utilized relating to tunnel design and safety.

Detailed air quality and noise analyses were not considered in the Tier II phase but will be performed as part on options continuing into the Tier III phase.

Other tunnel considerations that need to be further considered in Tier III Evaluation include:

- Disposal of tunnel cleaning chemicals
- Disposal of ponded fuel from fuel spills
- Traffic congestion due to lane closures for inspections
- Periodic closures and temporary traffic rerouting due to hazardous transport violations

Mainline Future Widening

21. ***Please share the detailed analysis that would allow the community to weigh these future relative costs between each option. Is that cost included in the Operating and Maintenance sections of the Comparison Concepts Estimated Planning-Level Costs chart for any of the concepts?***

Response:

Costs related to mainline future widening are not included in Tier II planning level cost estimates. Consideration of future mainline widening was only addressed to illustrate potential construction complexity.

Estimated Required Right of Way Acreage, Displacements, & Transportation Purposes

22. ***Can an analysis be run that minimizes, rather than maximizes, the need for an embankment area, limiting embankments to where they are needed to support vehicular and pedestrian connectivity across capped areas?***

Response:

Tier II Evaluation and Technical Analysis did not create new RCAs to evaluate. An option to minimize the embankment area would seem to contradict the input received by the DOTD/LCP Team in Tier I, where there was a desire to cover and make as much use of the greenspace in RCA 6.2 as possible. Further refinement will be done on the concept that advances into Tier III.

23. ***Please provide the parameters of how the determination of a "transportation purpose" would be made. What are the standards used in that decision? Are they outlined in federal or state law? Who would make that determination? Is there a review process? Are the mitigation techniques required by the record of decision considered "transportation purposes?" Are facilitating bicycle, pedestrian or other modes of travel considered "transportation purposes?"***

Response:

Various elements of a transportation project can be defined as fulfilling the transportation purpose and eligible for transportation funding. Other elements (such as park space) may not be eligible. The

FHWA would make the ultimate decision, however, such would increase displacements and impacts. It is the intention of this process to reduce takings and displacements.

Cost Estimates

24. Please provide a further level of detail as to what design concepts or potential design modifications were and were not included in these estimates.

Response:

Conceptual Tier II cost estimates include the features shown in the Comparison Series 4 and 6 RCAs. More detailed cost estimates will be provided for the concept advancing into Tier III.

25. If the only difference between Refinement Concept Alternatives 4.1 and 4.2 is the inclusion of the Grand Boulevard, then please detail how Refinement Concept Alternative 4.1 is more expensive than Refinement Concept Alternative 4.2?

Response:

RCA 4.1 was estimated to cost more than 4.2 due to the couplet alignment of the Evangeline Thruway which also included longer connecting streets in the couplet system, and more extensive roadway reconstruction.

26. What level of disturbance was assumed for this "contaminated soil disturbed "cost? Does it include remediation of the entire suspected brownfield area? Is it limited to the boring necessary to drive piles for the elevated structure? If only the limited portion, does it mean that any other work at grade in that area (local roads, bicycle paths, parks, etc.) would have extra remediation costs? What portion of the cost listed here was included with the cost of the category?

Response:

The level of disturbance assumed of contaminated soil was limited to include a one-foot buffer around the footprint of the pier footing, wall footing, or other structural element (1A and Series 4). Whenever there are 2, 3, or 4 individual columns/footings in a series across the corridor, it was assumed that an 18' wide strip would be excavated that would include the individual footing volumes plus the volume between the footings.

For Series 6 options, disturbance of contaminated soil was extended out to one-foot beyond the excavation limit for the semi-depressed and cut-and-cover roadway sections.

Cost estimates did not include any additional areas beyond the transportation facility that would be under the embankment, in order to equally compare the various options. More detailed cost estimates will be provided for the concept advancing into Tier III, which would include additional action that may be required after environmental assessments.

27. What were the assumptions made about soil disturbance and mediation in the category of the semi-depressed Refinement Concept Alternative? Does that remediation include the entire footprint of the embankment area, as proposed by LCP Team for Refinement Concept Alternative 6.2?

Response:

The level of disturbance assumed of contaminated soil in Series 6 RCAs was limited to one-foot beyond the excavation limit for the cut-and-cover roadway section, and did not include any additional areas beyond the transportation facility that would be under the embankment, in order to equally compare the various options.

28. ***What assumptions were made for estimating tunnel costs? What was the cost of fill associated with the embankment area for Refinement Concept Alternative 6.2? Were any savings on fill realized from the required excavation for the semi-depressed roadway?***

Response:

The assumptions made for estimating tunnel costs included (for RCA 6.2) unit price information from DOTD past construction projects per cubic yard for the tunnel lid fill and embankment fill. A similar unit price was used for the embankment fill (between Johnston and Jefferson Streets) for Series 1A. For this conceptual-level cost estimation, prices were not adjusted to presume some of the excavated materials would be suitable as fill material.

29. ***What linear foot cost projections were included for different elements of each concept, including for bridge costs, tunneling costs (whether on a linear foot or cubic foot basis), fill costs, ramp costs, right of way costs, etc.?***

Response:

General linear foot cost projections for Series 4 and 6 RCAs were not developed for Preliminary Tier II estimates. Based on the conceptual designs formulated for the Tier II RCAs to date, a more refined cost estimate was developed for each major component (i.e., cubic yards of concrete, pounds of steel reinforcement, pounds of post-tensioning steel, cubic yards of backfill, etc.). Next, a total cost estimate was developed for each Tier II RCA and component studied that included appropriate planning level contingencies.

30. ***How were the costs arrived at for the Operations and Maintenance Costs category?***

Response:

The estimated cost of Operations and Maintenance for all RCAs was estimated utilizing the past experience and records of DOTD throughout Louisiana, utilizing specific records from the three tunnels in Louisiana (including additional tunnel lighting, ventilation, cleaning, communications, and staffing costs), and relevant national and international tunnel maintenance information from Alabama DOT and European examples.

31. ***Please provide more detail for those assumptions, specifically if those are standard O&M assumptions for their respective structure types. Why do the Refinement Concept Alternatives 1A and 6.1 have O&M costs which are virtually the same? Does Refinement Concept Alternative 6.1 include both the 20% and 60% assumptions? Finally, the ETRT would request the preparation of a more limited cost estimate for Refinement Concept Alternative 6.2 that includes limited sections of caps, with less tunneling and fewer embankment areas.***

Response:

It is not best practices to develop full design or detailed estimates for every concept in the early SEIS process. Tier II Evaluation and Technical Analysis did not create new RCAs to evaluate.

For a conceptual level design, often a 20% markup or construction contingency is included for budgeting purposes. The O&M cost is a separate calculation and is dependent on the future maintenance and operations costs. The O&M costs for a depressed open section would be similar to a bridge; however, costs could be higher due to the closed section of the walls, but would include similar levels of lighting, inspection, etc. The O&M costs for a tunnel are significantly higher and include operations staff, power costs, tunnel cleaning operations, etc. More detailed cost estimates will be provided for the concept advancing into Tier III.

Signature Bridge

32. Was the cost of a potential Signature Bridge included in the Series 4 Refinement Concept Alternative?

Response:

Costs related to a Signature Bridge or other signature elements were not included in Series 4 or 6 RCAs Tier II planning level cost estimates. It is assumed that similar enhancement costs would also be included in any Series RCAs which would likely include signature/landmark features for gateway identification and place-making purposes. The Signature Bridge/element will require additional public input in Tier III for the concept that advances.

33. What is the difference between the phrases "Signature Bridge" and "landmark feature"? Is there a functional difference or is it matter of description?

Response:

A "Signature Bridge" is an iconic, typically long-span structure, that can be architecturally significant and have potential historic and cultural references. The bridge could potentially be elevated somewhat higher than the mainline bridges. In the Series 4 RCAs, this could provide a gateway to Downtown and the adjacent neighborhoods.

A "Landmark Feature" could take many forms (including a Signature Bridge) to enhance the overall transportation corridor for identity and place-making purposes, but also include such items as gateway monuments, significantly-scaled landscape elements (e.g., grand plazas, planting beds, etc.), major public art features and other urban design features, which could be incorporated in both the Series 4 and 6 RCAs.

34. Which PDMs were included in Cost Estimates?

Response:

Conceptual Tier II cost estimates include the features shown in the Comparison Series 4 and 6 RCAs. Many PDMs were not included in Tier II planning level cost estimates as they can be additive to either the Series 4 or 6 Comparison RCAs.

Other Miscellaneous Concerns

35. Please address access to the neighborhood just south of the UPRR Spur, and north of Mudd Avenue.

Response:

Further discussion and coordination with LCG, Sterling Grove Historic District and this neighborhood relative to all modes of access will take place during Tier III Evaluation.

36. Why was Noise Analysis not included in Tier II Analysis?

Response:

Noise analysis is not typically conducted this early in an Alternatives Analysis process, but will be further addressed in the SEIS.

37. Was any effort made to address the Economic Development Potential of Tier II Refinement Concept Alternatives?

Response:

An analysis of the Series 4 and 6 RCAs potential to stimulate adjacent Economic Development is not part of the current I-49 Connector project. However, a number of design elements that could stimulate or complement economic development near the corridor have been included in the Series 4 and 6 RCAs. These will be discussed further in the CSS process.

Additionally, it is DOTD's understanding that the U.S. DOT Transportation Investment Generating Economic Recovery (TIGER) grant offered more potential to impact economic development adjacent to the corridor beyond Level 1 of the corridor.

This grant received by Lafayette City Parish was intended to work with communities, to enhance economic development and quality of life adjacent to the Lafayette Connector transportation corridor.

38. Please address Simcoe Street/Mudd Connectivity.

Response:

Additional options for on- and off-ramp configurations and other circulation factors can be investigated in the RCAs that continue into Tier III Evaluation to maintain Simcoe Street and Mudd Avenue in their current alignments.