Components

COMPONENTS

The reconstruction of IH 30 and IH 35E will be comprised of various components that can be influenced by Urban Design. These components are the physical features of the project that are visible from a driver's perspective and from the community perspective along the right-of-way. Motorists observe these features from the main lanes, along the service roads, as they move to and from the project on interchange ramps, and as they drive across the freeway on local street crossings. The community observes the project components from ground level on properties along the right-of-way project as well as from the inside of nearby buildings, often with a "bird's eye" vantage point. It is therefore unlikely that any of these project components go unnoticed. Basic components consist of bridges, retaining walls, signs, and lights. Components under consideration would require low or minimal maintenance.

Bridges

The largest, most visible bridges will occur in interchanges. These structures are frequently viewed from below the bridge. The underside appearance of the beams and bridge slab is an important factor in the aesthetic quality of these structures. It is therefore encouraged that beams with a clean underside appearance be utilized. This generally includes box beams and "U" beams. Based on the geometric configurations within Project Pegasus, "U" beams could be a practical selection to achieve an enhanced appearance that can work for the wide range of span conditions anticipated. This is due in part to the availability of "U" beams in both pre-stressed concrete and steel construction. However, box beams would be used in the Canyon to provide vertical clearance. Whatever structures are selected, they should be used in a consistent manner throughout the project.

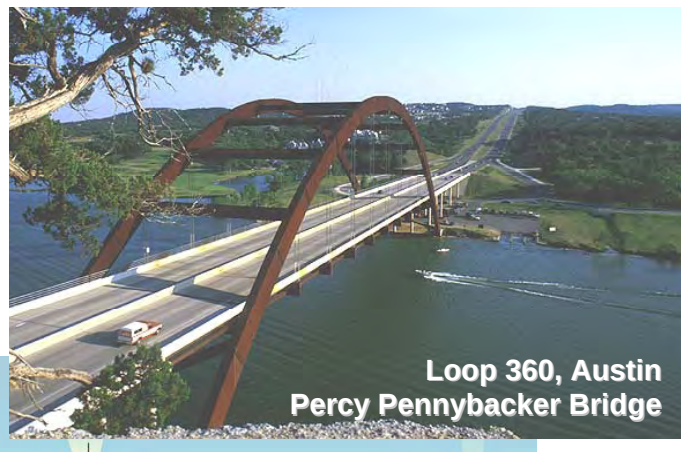
Columns supporting the bridge beams and deck should be designed to relate to other structural surface finishes in a coordinated fashion. In general, a twin column relief is recommended with details such as the column base and/or cap details varying by project segment. This strategy acknowledges the inherent consistency of certain bridge components through all areas of the project with minor details varying in accordance with the context sensitive design strategy for the overall project.

Bridge columns and structural supports occur in various configurations ranging from single supports on overhead ramp bridges to multiple columns at interior bridge bents (column supports) on large, mainlane bridges. Columns at interior bridge bents can be of a similar style as on single column ramp bridges. Structural members in between these columns may take on different characteristics to visually differentiate the various segments of the project. These variations could range from traditional arched forms to modern angular projections. Introduction of arched forms and/or angular projection at the top of the columns could create colonnaded treatments reminiscent of classic pedestrian arcades. Metal armatures for underbridge lighting could achieve a similar effect. Enhancements such as these that serve multiple objectives are particularly useful. In the case of light armatures, the functional need for underbridge lighting can be met while the same design delineates pedestrian walkway zones as well as enhances the visual quality of the bridges.

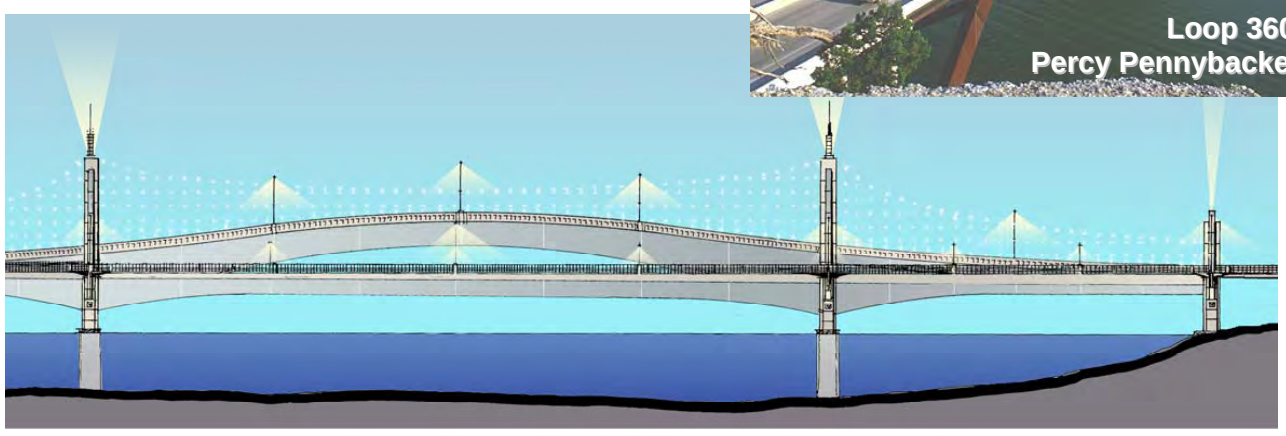
The traffic rails on the bridges (and occasionally at the top of retaining walls) are most often constructed of concrete for safety reasons. In areas that do not have traffic safety issues, metal handrails could be considered. Metal handrails can be color-treated and the color can vary according to the motif in each segment of the project i.e., Confluence, Canyon, Mixmaster. Special forms and finishes can be provided on the "back" (opposite traffic) of concrete traffic rails. These effects can be achieved in a number of ways, the most likely method being the use of concrete formliners. Similar to the handrails, shapes, or textures can vary in accordance with the segment of the project within which they are located. The use of accent color finishes could be considered but should be limited to muted tones or minimal surface coverage.

Gateway Bridges

Two bridges in the project corridor represent major gateways to and from Downtown Dallas – IH 30 and IH 35E over the Trinity River. Both have the potential to be "landmark" bridges; however, the funding and constructability of these bridges would present major challenges. The costs of large gateway or landmark bridges can widely vary depending on the type of bridge, and these bridges may also be more difficult to construct and have an associated maintenance cost.



Loop 360, Austin
Percy Pennybacker Bridge



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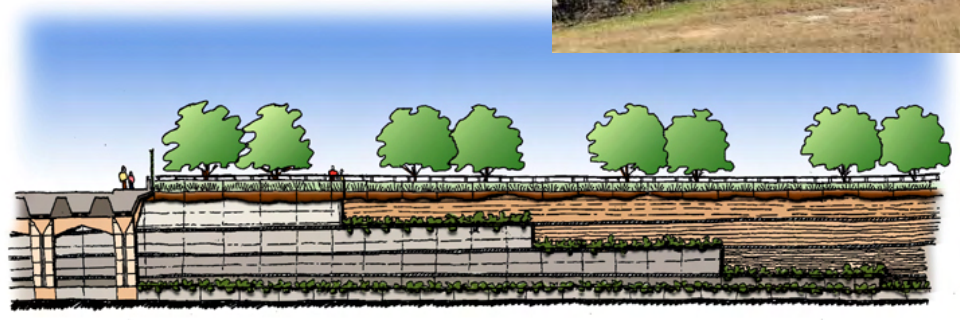
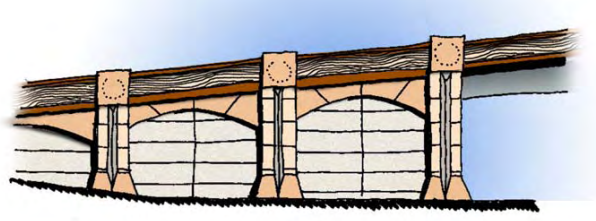
Components

Retaining Walls

For a large, urban freeway such as Project Pegasus, walls become one of the most predominant, recurring structural design elements. Textures, patterns, and colors can be introduced on the retaining wall surfaces to create visual interest and to differentiate the various segments of the project.

Along IH 30 in the Ravine section, retaining wall patterns could represent the naturally occurring sedimentary rock strata through which the freeway is cut. Horizontally textured patterns could comprise the main portion of the walls. These patterns might increase in texture as they become taller. Bands demarking the representative strata might correspond to the concrete wall panel increments that makeup the wall. Conversely, a horizontally banded wall pattern at and surrounding each bridge abutment could represent a more architectural stratification related these large man-made structures. A stair-stepped transition between the two patterns could serve to further articulate the wall design in a manner that visually reduces the apparent mass of these otherwise large, blank wall surfaces. It may even be possible to incorporate terraced planters with trailing ground covers as a visual signal of traffic movement at exit and on-ramps between the mainlines and paralleling frontage roads. At the top of the walls, the traffic rail serves as a coping element. This could incorporate a pattern representing the topsoil horizon that normally caps the local rock strata mentioned above. A stylized depiction of ground vegetation could complete this hierarchical composition on the back of traffic rails.





Through the Mixmaster segment, a wall pattern representing a more traditional motif could be utilized. Periodic, vertical columns with arched spans between could frame horizontally oriented wall panels in between. This family of forms is in keeping with the predominant characteristics of the Jefferson Street Viaduct, the Commerce Street Triple Underpass, and surrounding building structures along this roadway segment. The resulting composition provides a balance of horizontal and vertically oriented patterns that can blend into adjacent project segments. This enables the Mixmaster segment to serve as a transition between the horizontally textured IH 30 retaining walls and contrasting patterns on the IH 35E segment. Completing this composition, a textured pattern could be developed for the concrete traffic rails at the top of these walls. A flowing pattern representing the Delta concept and nearby Trinity River could be a fitting detail relevant to this segment.

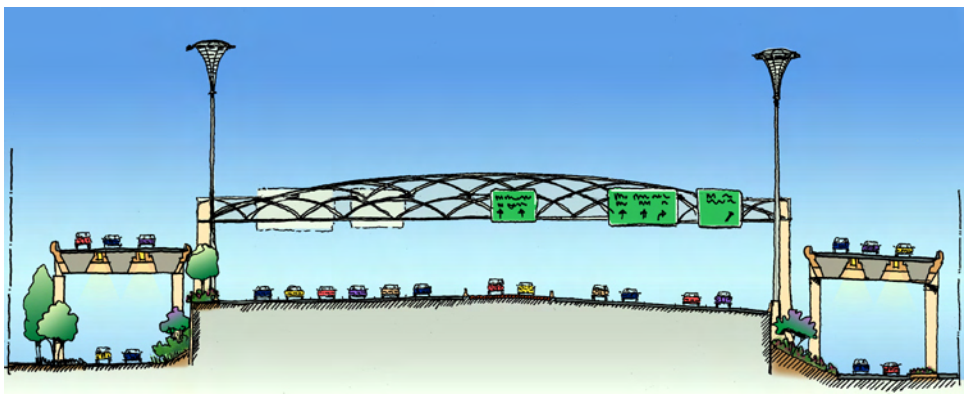
Along the Main Branch portion of IH 35E, a design could be utilized that is derived from flowing, river current patterns. This design could take many forms but should not attempt to be too literal in the execution. The IH 35E corridor will have virtually continuous retaining walls along each side of the new facility. In essence, these walls will replace the existing sloped shoulders to accommodate the upgraded facility. This will require the removal of most turf areas and trees that currently exist between the freeway mainlanes and frontage roads along IH 35E.

By incorporating free form, flowing patterns, a solution could be implemented that reduces the visual mass of the new retaining walls. These patterns could be applied to the retaining walls as well as the traffic barriers that run along the top of wall. The walls could be designed in a manner that affords the opportunity for terracing and integration of landscaping. These design strategies would result in characteristics similar to the topographic massing and vegetation that naturally occurs along the edge of creeks and rivers in the Dallas-Fort Worth region. Creating this type of effect along the freeway edges could be an interesting and pleasant relief in an otherwise harsh environment dominated by large, concrete structures and pavements.

As the retaining walls meet the bridge abutments at local street crossings, it is recommended that a vertical column or structure be placed at the corner. This will serve as a transition to the ordering of the colonnaded bridge abutments which run along the axis of the bisecting, local roadway as previously referenced in this report. It may be feasible for these corner elements to also serve as neighborhood gateway features.

Components

Signage



Major overhead sign structures will occur throughout all segments of Project Pegasus. Although there is no design flexibility on the sign panels themselves, the trusses and columns can potentially receive special attention. It may be feasible to incorporate a unique form on the trusses that span the roadways. An arched shape is functionally sound and provides a visual association with the type of bridge structures often used to span creeks and rivers. If implemented, this simple strategy would lend another aspect of interest while still serving the primary functional needs of the project. Sign columns could potentially be of concrete construction if space permits. If so, this would enable the columns to incorporate detailing from other structural members such as bridge and retaining wall columns.

Other miscellaneous signs will occur throughout the project. When possible, it would be desirable to place signs in conjunction with other structural features, where possible. Additional signing or icons may be appropriate to assist in wayfinding to major distinctions along the corridors. On a project with so many varied conditions, a consistent type of mounting hardware would be desirable. This hardware and the often-visible backside of sign panels could benefit from an application of a consistent finish color to help minimize visual clutter.

Lighting

The mainlanes of the entire Project Pegasus will receive new lighting standards. Based on the scale of the freeway facility, it is likely that tall light standards will provide the most cost effective corridor illumination treatment. Confirmation of lighting agreements for frontage roads should occur, potentially as separate operating systems from mainlane areas. In the IH 30 segment, it would be desirable to utilize conventional height streetlight standard (40 feet to 50 feet) located either side of the HOV/M lanes in the center of the freeways. This placement emphasizes the center-oriented Ravine concept. From a theoretical standpoint, the lights line the HOV/M lanes in much the same way trees grow along creek and river edges. From a practical standpoint, the center placement minimizes light spill and visual encroachment on the adjacent neighborhoods. It also provides a comfortable separation so that downtown Dallas streetlight standards can be utilized along the outside edge of the adjacent frontage roads. By doing this, the character of the local street network is emphasized along the frontage roads.

Special light fixture and pole selections for the Ravine mainlane lighting could complement the consistency of the conceptual theme implementation. If this is not feasible, it may be possible to attach decorative shrouds or pole finials to standard streetlight hardware. Applying a paint color finish to both can further enhance whatever fixture and poles are used.

On cross street roadways and bridges over the IH 30 Ravine, selective use of pedestrian scale light standards could contribute to contextual continuity with the surrounding neighborhoods. Fixture and pole selections might match existing standards currently in use along the corridor or could establish new standards for emerging redevelopment initiatives. This scale of light standard is therefore encouraged along cross streets within the Ravine section. Other accent lighting may be appropriate to highlight specialty features such as arbors, arcades, or landmark gateways.

Space constraints and the width of the IH 35E corridor demand tall, highly efficient light standards. Rather than using conventional “high mast” standards, it is recommended that intermediate height, “tall mast” fixtures be considered. These fixtures could still utilize the high mast type of light ring that affords great operating efficiency. Decorative shrouds could be utilized however to provide a distinctive fixture form without compromising operational characteristics. For example, a shallow arched dome hood could enclose the top of the fixture-mounting ring. Draped panels below the fixture ring could complete the additive form. The resulting effect would be a distinctive fixture for the corridor with

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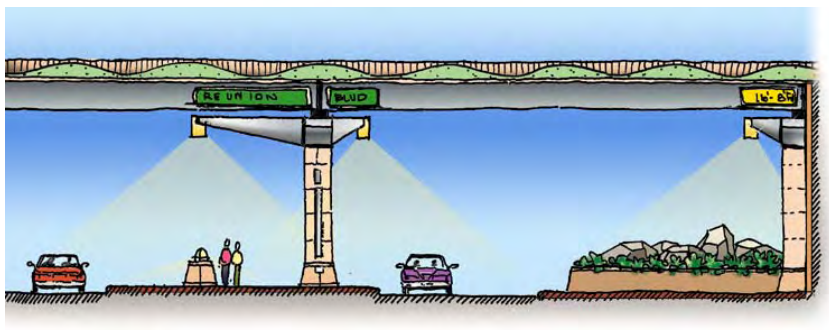
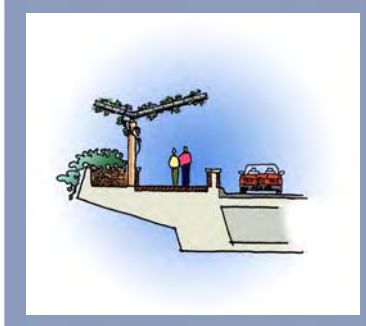


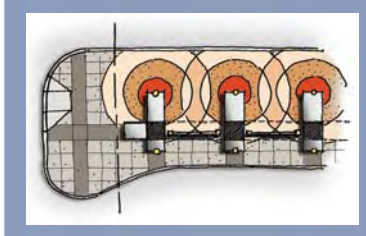
predominantly standard parts and functional performance. This same fixture could be used at interchanges with the addition of special color finishes to define the various locations. Consistency of placement along the outer edges of the main lanes will lend visual consistency at a scale commensurate to the overall corridor. Also, the tall mast fixtures could potentially illuminate the main lanes and the frontage roads from this placement. Supplementary lighting required for under-bridge areas should be coordinated with the design of the bridge structures.

Miscellaneous Features

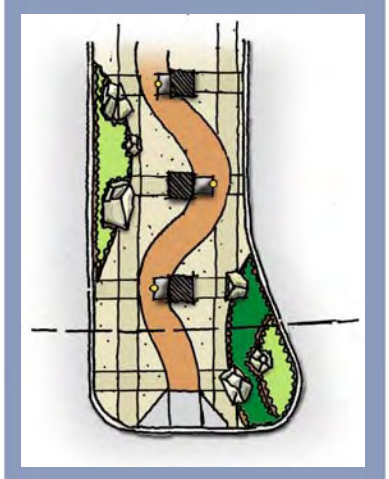
Various specialty features throughout the corridors can “personalize” the project design to blend the characteristics of the community into the Project Pegasus right-of-way. Design features such as arcades and arbors placed along bridge sidewalks, as described in Opportunities, can completely transform the character of these crossings. They provide definitive edges to the street spaces, a sense of scale, and introduce qualities from the adjacent community into otherwise featureless spaces.



The improvements within the right-of-way are usually constructed almost exclusively of concrete. This can create a cold, monolithic environment unless other materials and colors are introduced within the right-of-way. Provision of landscaping and visually contrasting “hardscape” materials can soften the effect of this otherwise harsh environment. It is therefore recommended that trees, turf areas, landscape planters, and related landscape irrigation improvements be incorporated into the right-of-way to the greatest degree possible. This presents challenges beyond merely planting leftover spaces. It requires early design coordination to capture additional space for landscaping opportunities (such as median planters, planter terraces, and bridge deck planters). It is imperative that maintenance of landscape and irrigation improvements be addressed as an integral aspect of the project design. This will require agreements between TxDOT, the City of Dallas, and/or other agencies early in the design process prior to reconstruction.



Hardscape improvements can include features such as stone and masonry wall veneers, landscape planters, seatwalls, ornamental fencing, and specialty paving. These types of improvements will be most successful if they are designed as an integral aspect of the project addressed prior to preparing final construction plans. As an example, one of the simplest of these improvements is specialty paving in the sidewalks and intersection crosswalks. Specialty paving introduces color and texture variation with minimal cost and maintenance impact. Paving patterns can be utilized that contribute to the concept and theme of each particular segment of the project. The same strategy applies to the other “hardscape” improvements mentioned.



Neighborhood gateways and landmarks are feasible at various scales throughout Project Pegasus. Regional icons can be developed at locations such as the Farmers Market/Old City Park, Woodall Rodgers at IH 35E or the IH 35E/SH 183 interchange. These locations warrant large-scale solutions in context with their surrounding environment.

At a smaller scale, neighborhood gateways can identify individual districts. Features such as this often stand alone, independent of other freeway facilities. They can also be integrated into the design of other functional components of the project such as bridge columns, abutments or roadside traffic rails. This approach potentially offers the economy of serving multiple purposes to achieve the necessary scale for gateways. It is important that they are properly scaled in proportion with the surrounding freeway components. The point presented here is that a column or traffic rail required as a functional element of the transportation facility could potentially serve as a base for the additional gateway components at no additive cost to the project. The integration of these two components is indicative of opportunities throughout Project Pegasus to blur the line between the functional and the aesthetic.

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