

ALTERNATIVES ANALYSIS

An evaluation of practicability for alternative sites and designs was considered for the proposed project; however, the purpose and need requires the second main track be constructed along the existing railroad between Crosby and Dayton. Under the No Action Alternative the proposed project would not be constructed which would not provide the increased capacity and operational efficiencies needed to handle the increased demand for interstate commerce and alleviate the main bottleneck in the railroad system to the timetable east of Houston. The No Action Alternative does not address the need to meet anticipated demands of interstate commerce and thus would not meet or satisfy the need and purpose for the Project.

No alternative locations (i.e., off-site alternatives) were further evaluated because the proposed location along the existing railroad alignment between Crosby and Dayton is the only location that satisfies the need for the project by adding a second mainline track between the two existing sidings (i.e., sections with two tracks). An alternative to move the proposed project to a different location away from the existing railroad is not practicable due to logistical constraints for the railroad operations. Furthermore, an offsite location is likely to have higher impacts to waters of the U.S. due to lower development and presence of aquatic features. With these considerations, the proposed project location is the only practicable alternative that meets the purpose and need for the project.

At the proposed location, the project design of the proposed alternative uses the minimum distances and widths to accommodate the tracks and other features while meeting the requirements for safe construction and operation. Additionally, fill for the proposed alternative embankment uses a proposed typical slope of 2:1 (horizontal to vertical), compared to a more common 3:1 or 4:1 slope. The proposed embankment size, side slope, and track centers (i.e., horizontal distance between sets of tracks) provide the narrowest cross-section that still meets the current design criteria of practicability and purpose and need for the project to minimize impacts to wetlands. Closer track centers for a narrow project footprint would not meet the safety and operations requirements, so that is not a practicable alternative. Steeper embankment slopes for a narrow project footprint would not be practicable to construct and would not be stable for long term conditions (i.e., not operationally practicable), so that is not a practicable alternative. An alternative with wider track centers and/or wider embankment would be more damaging to potential waters of the U.S. based on the location and nature of the features. An alternative alignment on the opposite side of the existing track is closer to U.S. Highway 90, and thus not practicable from a safety standpoint to prevent reducing distance from the highway intersections.

Furthermore, an alternative on the other side of the existing track is not practicable due to the alignment of existing sidings, in order to avoid unnecessary curves which minimizes

maintenance costs and other rail operational and safety issues. Furthermore, UPRR has modified the original design alternative to minimize impacts to wetlands to the extent practicable through grading changes and reducing access roads. Overall, the proposed project site and design plan is the least environmentally damaging practicable alternative that meets the purpose and need for the project (see Table 1 below).

Table 1. Summary of Alternative Analysis

Alternatives	Practicable	Environmental Impacts*	Meets Project Purpose and Need	Accept/Reject
No Action	N/A	Low	No	Reject
Offsite	No	High	No	Reject
Proposed Design	Yes	Moderate	Yes	Accept
Alternate Design for Wider Footprint	Yes	High	Yes	Reject
Alternate Design for Narrower Footprint	No	Low	Yes	Reject
Alternate Design on Other Side of Existing Track (near US 90)	No	Moderate	Yes	Reject

* Based on planning-level review of available information on potential waters of the U.S.