

CHAPTER 3
ALTERNATIVES

A. Introduction

The proposed Austin Outer Parkway (SH 45) would consist of approximately 84.1 miles of controlled access highway circling the City of Austin as shown in Figure 3-1. Most of the proposed facility would be built as a freeway composed of limited access roadway with full grade separation at interchanges. Entrance and exit movements would be accomplished by ramps connecting to frontage roads. The right-of-way width requirements for the freeway sections would be approximately 400 feet, with additional requirements at major interchanges, drainage structures, or where terrain warrants.

A portion of the proposed highway, located primarily in western areas of greater Austin, would be constructed as a parkway with controlled access because of the environmental amenities in that area. The parkway sections would have a greenspace buffer between the roadway and adjacent areas, and no frontage roads. Where possible, landscape and scenic easements would be provided along the parkway to enhance the beauty of the roadway. The right-of-way width requirements for the parkway sections would be 300 feet, with as much as 400 feet required at interchanges, drainage structures, or where terrain warrants additional right-of-way.

Typical parkway and freeway sections are shown in Figures 3-2 and 3-3. The minimum roadway section being planned would consist of four mainlanes and, when provided, four frontage road lanes. The largest section would consist of eight main lanes and six frontage road lanes.

Interchange spacings would range from less than one mile to a usual maximum of about two miles. This close interchange spacing would provide greater access to and from the Austin Metropolitan area and minimize the effect of misdirection created by one-way frontage roads. Interchange locations are shown on Figure 3-1.

Due to the length of the project, it was necessary to establish segments and logical termination points. The approximate segments are shown in Figure 3-1, and a brief description of each follows (the lengths shown are exclusive of interchange transitions):

o SEGMENT 1

Termini: IH 35 north of Austin to SH 71 east of Austin

Approximate Length: 27.3 miles

o SEGMENT 2

Termini: SH 71 east of Austin to IH 35 south of Austin

Approximate Length: 14.6 miles

o SEGMENT 3

Termini: IH 35 south of Austin to US 290 west of Austin

Approximate Length: 12.4 miles

o SEGMENT 4

Termini: US 290 west of Austin to US 183 north of Austin

Approximate Length: 22.1 miles

o SEGMENT 5

Termini: US 183 north of Austin to IH 35 north of Austin

Approximate Length: 7.7 miles

An Overview Environmental Assessment was prepared for the entire Austin Outer Parkway project. The study concluded that the proposed project would potentially have a number of significant impacts on the environment. As a result, the project was designated as a Class I action requiring the preparation of an Environmental Impact Statement (EIS). It was decided that a separate EIS would be prepared for each of the segments because of the extensive length of the project. The division into separate reports would also allow intensive surveys and analyses of the environmental features and potential impacts of the project.

Figure 3-1
GENERAL LOCATION MAP
SEGMENT 3



LEGEND:

- ALTERNATIVE ALIGNMENTS FOR OUTER LOOP PARKWAY WITH INTERCHANGES SHOWN
- MUNICIPAL BOUNDARIES
- COUNTY LINE

ROADWAY CLASSIFICATIONS

- INTERSTATE HIGHWAY
- US HIGHWAY
- STATE HIGHWAY
- LOOP HIGHWAY
- FARM TO MARKET ROAD
- OTHER ROADWAYS

SEGMENT LIMITS



FINAL ENVIRONMENTAL IMPACT STATEMENT
AUSTIN OUTER PARKWAY
STATE HIGHWAY 45
SEGMENT 3
 STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

SCALE IN FEET
 SCALE IN MILES

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 10701 MEADOWS FARMWAY AND SECOND

This EIS addresses Segment 3 (southwest portion) of the Austin Outer Parkway project. For purposes of the environmental studies, the termini for this segment of State Highway 45 are the centerlines of IH 35 south of Austin and US 290 west of Austin. Impacts, however have been included and evaluated for the interchange transition areas located at each end of the segment east of IH 35 and north of US 290. The schematics, displaying the alternatives at a scale of 1 inch = 400 feet, indicate termini 0.8 mile east of the IH 35 centerline and 300 feet north of the US 290 centerline.

This chapter of the EIS includes identification of general corridor characteristics and a detailed description of the proposed and alternative alignments within Segment 3.

B. General Overview of Corridor and Alternative Alignments

The Segment 3 corridor is approximately 12.4 miles in length and is located primarily in Travis County. The proposed alternative alignment extends into Hays County for approximately 2.5 miles. The two alternatives considered vary between 12.2 and 12.4 miles in length not including the interchange transition at each end of the segment. The alternatives are shown on Figure 3-4.

Interchange transitions have been provided at each terminus of Segment 3 to logically end the construction and to make necessary connections into existing roadways. These transitions would require that Segment 3 construction extend to the east and north of IH 35 and US 290, respectively. As Segment 3 begins, Segment 2 approaches IH 35 from the east generally following existing FM 1327. The construction of the Austin Outer Parkway east of IH 35 would include frontage roads only. These frontage roads would be constructed within the ultimate right-of-way of the Austin Outer Parkway and would be temporarily connected into existing FM 1327. Mainlane construction would begin west of IH 35 just east of the mainlane gores for the proposed IH 35 direct connections.

Segment 3 would end at the centerline of existing US 290 where Segment 4 begins. The interchange transition would include the continuation of the northbound frontage roads from the centerline of US 290 to the westbound frontage road of US 290. Segment 3 mainlanes would end south of US 290 just north of the mainlane gores for the entrance and exit ramps serving US 290.

Although these interchange transitions are not within the specific limits of Segment 3, they are necessary for the logical termination of the construction and would allow for the independent utility of this segment of the Austin Outer Parkway. Environmental impacts associated with these interchange transitions have been included in the study.

The corridor begins 0.8 mile east of the existing intersection of FM 1327 and IH 35 and proceeds in a generally westerly and northwesterly direction ending 300 feet north of the centerline of US 290 in the vicinity of the existing intersection of Rim Rock Trail and US 290. The roadway in Segment 3 is a rural freeway or parkway section with three mainlanes in each direction from IH 35 to Loop 1 (MoPac) and a rural freeway or parkway section with two mainlanes in each direction from Loop 1 to US 290. Where frontage roads are provided, there would be two lanes in each direction.

The right-of-way requirements for the Austin Outer Parkway will be dependent on the type of facility provided. The right-of-way width required for all freeway sections, as established by State Highway and Public Transportation Commission Minute Order 83158, would be 400 feet. Additional right-of-way may be required at major interchanges, drainage structures, or due to terrain. The freeway portions would feature controlled access as designated by House Bill 179, with the control line typically being the inside curb of the frontage roads. Access points would be limited to major facility crossings, and the control of access line at entrance and exit ramp terminals would be located at the right-of-way line.

The parkway portion of Segment 3 would have a separate right-of-way requirement. The City of Austin officially defines a parkway as "a subcategory of freeway; a parkway is a roadway which has fully controlled access, no at-grade crossings, and no continuous frontage roads; requires the acquisition or donation of access rights; has a generous greenspace buffer between the roadway and adjacent development; and which presents and enhances the natural landscape as much as possible." The right-of-way width requirements for parkway sections will be 300 feet, with as much as 400 feet required at interchanges, drainage structures, or when terrain warrants additional right-of-way.

The parkway portion would also be a controlled access facility, as designated in House Bill 179, with the control line typically being the right-of-way line. Where frontage roads are included, the control of access line would be set at the inside curb of the frontage roads. A landscape or scenic easement of 50 feet is proposed on both sides of the parkway section as a buffer between development and the roadway. This easement is provided in addition to the basic right-of-way requirement of 300 feet.

Major existing roadways which would intersect with the Austin Outer Parkway in the Segment 3 corridor are IH 35, FM 1626, Bliss Spiller Road, RM 1826, and US 290. The Austin Transportation Study (ATS) has identified additional roadways which will, in the future, intersect with this segment of the Austin Outer Parkway. Among these are extensions of Great Bear Drive (Manchaca Road), Loop 1 (MoPac) and Convict Hill Road (Arterial 10). New roadways identified from subdivision plats or needed for access to adjacent properties are Kendrick Boulevard, Wood River Drive, and Green Emerald Terrace. Green Emerald Terrace is a future street extending only south of the Austin Outer Parkway to provide access to adjacent properties.

There are no existing roadways which traverse the Segment 3 corridor. Most of the Austin Outer Parkway would be located on presently undeveloped acreage, but several large developments are being planned which would set aside land for right-of-way. Formal identified bike routes have not been incorporated by SDHPT for this project but the shoulder of the road will be available for such use, similar to what occurs on Loop 360.

C. Route Alignment Alternatives

The following discussion is a detailed description of the "build" and "no-build" route alternatives in Segment 3. The "build" route alternatives shown on Figure 3-4 are a result of detailed analysis of environmental, socioeconomic, and engineering considerations.

For illustration purposes, the corridor for Segment 3 was divided into two subsegments with the designations and termini as follows:

<u>Subsegment Designation</u>	<u>Termini</u>
3.1	Beginning of segment to Loop 1 (MoPac)
3.2	Loop 1 (MoPac) to end of segment

Each subsegment contains two route alternatives which are given the additional designation of either "A" or "B". With this new designation, the subsegment and possible alternatives in each subsegment are described as follows:

<u>Subsegment Designation</u>	<u>Possible Route Alternatives</u>
3.1	3.1A 3.1B
3.2	3.2A 3.2B





Assembling the alternatives in all possible permutations yields four distinct alignment alternatives in Segment 3.

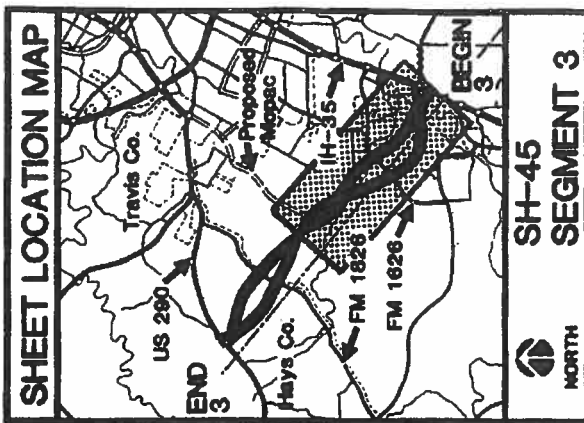
The horizontal and vertical alignments within Segment 3 have been developed utilizing a design speed of 60 mph. All horizontal curves have a degree of curvature of 2° 00' or less and roadway grades of 4 percent or less.

1. Subsegment 3.1

The two alternate routes in Subsegment 3.1 would begin in slightly different locations due to the presence of alternative routes at the termination of Segment 2 (southeast Austin). Both alternates would begin 0.8 mile east of IH 35 with a transition section consisting of frontage road construction which would connect back into existing FM 1327. Both alternates would end at the future interchange with Loop 1 (MoPac). Figure 3-5 shows the alternative alignments in Subsegment 3.1. The roadway would be a six-lane rural freeway or parkway section west of IH 35. Where provided, the frontage roads would be two-lane in each direction.

Figure 3-5
SEGMENT 3 ALIGNMENTS
 SHEET 1 OF 2
 LEGEND:

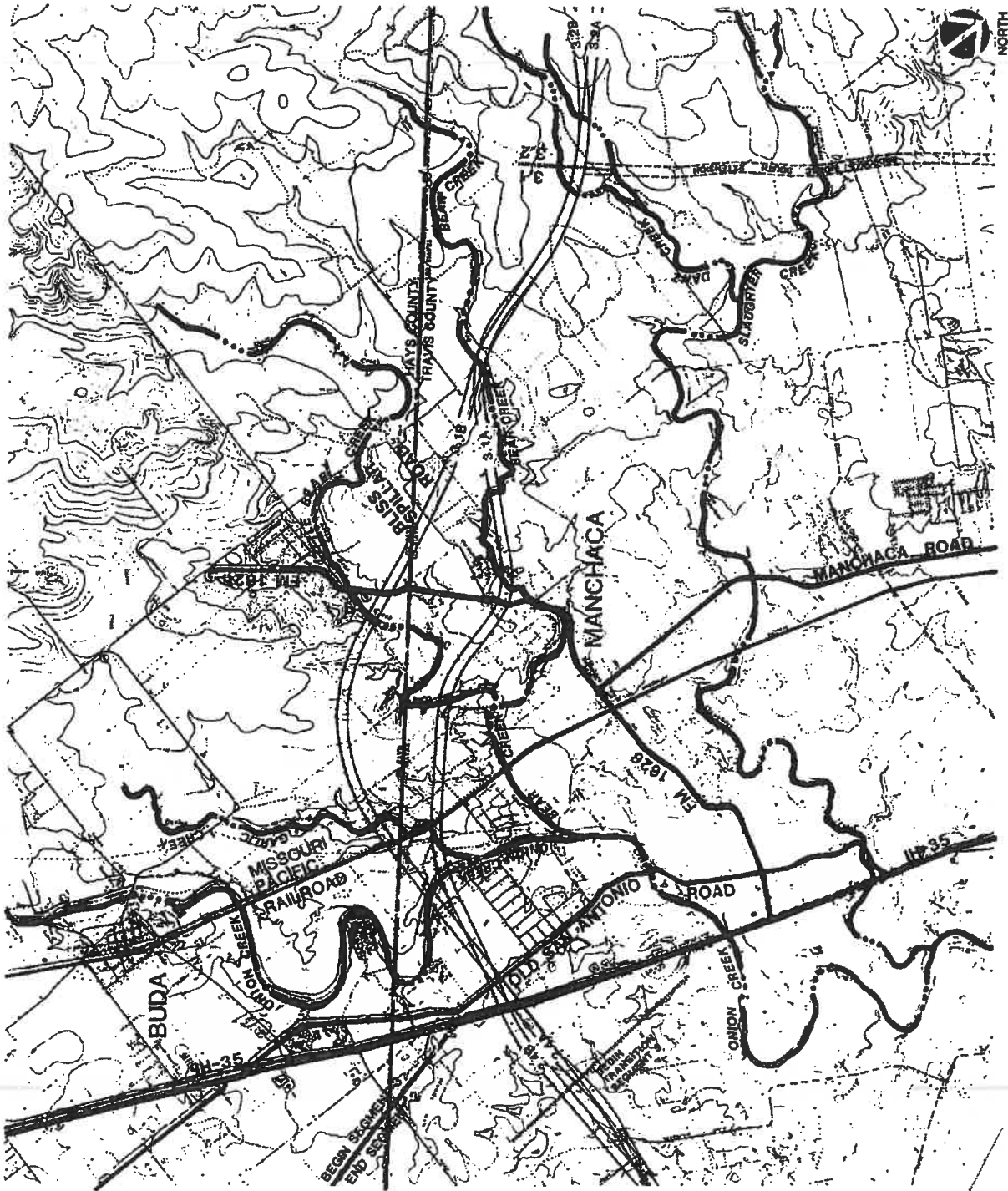
-  ALIGNMENT ROUTES
-  DESIGNATES SEGMENT
-  DESIGNATES SUB-SEGMENT
-  DESIGNATES ALTERNATE



FINAL ENVIRONMENTAL IMPACT STATEMENT
AUSTIN OUTER PARKWAY
 STATE HIGHWAY 45
 SEGMENT 3
 STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

SCALE IN FEET: 0 1,000 2,000 3,000 4,000
 SCALE IN MILES: 0 1 2 3 4

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a. Route Alternative 3.1A

Alternative 3.1A can be distinguished from Alternative 3.1B because it lies entirely within Travis County and is located closer to the City of Austin. This alternative within Segment 3 would begin approximately 0.8 mile east of the existing intersection of IH 35 with FM 1327. The proposed frontage roads would transition into the existing pavement of FM 1327. The roadways would begin parallel to and 0.1 mile south of existing FM 1327 and would continue in a westerly direction to an interchange with IH 35. The interchange with IH 35 would be characterized as a five-level fully directional interchange, or more accurately described as a three-level diamond with two levels of direct connecting ramps. The frontage roads would intersect at grade, the IH 35 mainlanes would be one level below grade, and the Austin Outer Parkway would be one level above grade. West of IH 35 the roadway would be a rural freeway section with three main lanes and two frontage road lanes in each direction. The frontage roads end at the Onion Creek bridge with an at-grade turnaround.

The Austin Outer Parkway main lanes would proceed in a northwesterly direction across a continuous bridge structure over Onion Creek, Garlic Creek, and the Missouri Pacific Railroad. Following the end of the bridge structure, the roadway would continue in a six-lane parkway section to an interchange with Great Bear Drive. The alignment of Great Bear Drive would be the extension of Manchaca Road and is dedicated as right-of-way on a subdivision plat recorded as the Woods of Bear Creek. The interchange would be located 2.4 miles from the interchange with IH 35 and would be characterized as a standard diamond underpass with turnarounds and a normal four-quadrant ramp configuration. The ramps and mainlanes west of the interchange would be located on a bridge structure to span Little Bear Creek.

The Austin Outer Parkway in Alternative 3.1A would continue in a six-lane parkway section proceeding in a northerly direction to an interchange with FM 1626. The interchange would occur 1 mile from the previous interchange with Great Bear Drive and would be characterized as a standard diamond overpass with turnarounds and a normal four-quadrant ramp configuration. The main lane overpass structure and the ramps would span Bear Creek north of FM 1626.

Alternative alignment 3.1A would then take a northwesterly direction across Bear Creek once again for a distance of 1.6 miles to an interchange with

Wood River Drive. The interchange would be a standard diamond overpass with turnarounds and a normal four-quadrant ramp pattern. Wood River Drive is a street taken from a recorded subdivision plat called Shavano Woods. It extends only south of SH 45 because of the close proximity to Bear Creek. West of the interchange, the six-lane parkway would cross Bear Creek for the third time.

The Austin Outer Parkway would continue in a northerly direction for a distance of 0.9 mile to an interchange with Green Emerald Terrace. The interchange would be a standard diamond overpass with turnarounds and a normal four-quadrant ramp pattern. Green Emerald Terrace is a future street extending only south of the Austin Outer Parkway to provide access to adjacent properties.

Alternative 3.1A would end at the interchange with Loop 1 (MoPac), where the alignment coincides with Alternative 3.1B. The interchange would occur 1.1 miles from the interchange with Green Emerald Terrace and would be characterized as a four-level fully directional "Y" interchange with ramp extensions intersecting at grade with three future roadways.

b. Route Alternative 3.1B

This alternate within Segment 3 would begin approximately 0.8 mile east of the existing intersection of IH 35 with FM 1327. The proposed frontage roads would transition into the existing pavement of FM 1327. The roadways would begin parallel to and along the existing alignment of existing FM 1327 and would continue in a westerly direction to an interchange with IH 35. The interchange with IH 35 would be characterized as a five-level fully directional interchange, or more accurately described as a three-level diamond with two levels of direct connecting ramps. The quantity of traffic movements eastbound on SH 45 from IH 35 does not justify direct connections. The frontage roads would intersect at grade, the IH 35 mainlanes would be one level below grade, and the Austin Outer Parkway would be one level above grade. West of IH 35 the roadway would be a rural freeway section with three main lanes and two frontage roads in each direction. Unlike the previous alternative, the frontage roads would continue across Onion Creek and into Hays County.

The Austin Outer Parkway would proceed in a westerly direction into Hays County crossing beneath the Missouri Pacific Railroad and over Garlic Creek. The first interchange would occur 2.2 miles from the interchange with

IH 35. The Great Bear Drive interchange would be a standard diamond underpass with turnarounds and a normal four-quadrant ramp pattern.

The alignment would continue in a six-lane rural freeway section, proceeding in a northwesterly direction for a distance of 1.4 miles to an interchange with FM 1626. The interchange would be characterized as a standard diamond overpass with turnarounds and a normal four-quadrant ramp pattern. FM 1626 would be slightly realigned to simplify the overpass structure.

The roadway would continue 0.6 mile to an interchange with Bliss Spillar Road. At this point, the freeway section would end, and a six-lane parkway section would begin. The interchange is a half-diamond freeway overpass with turnarounds and ramps serving the interchange from the north. Bliss Spillar Road would be realigned to improve the design of the interchange.

The six-lane parkway in Alternative 3.1B would continue in a northwesterly direction for a distance of 0.9 mile to an interchange with future Wood River Drive. The interchange would be a standard diamond overpass with turnarounds and a normal four-quadrant ramp pattern. West of the interchange, the parkway main lanes would cross Bear Creek.

The Austin Outer Parkway would continue in a northwesterly direction for a distance of 0.9 mile to an interchange with Green Emerald Terrace. The interchange would be a standard diamond overpass with turnarounds and a normal four-quadrant ramp pattern. In this alternative, Green Emerald Terrace also extends only south of the Austin Outer Parkway.

Alternative 3.1B would end at the interchange with Loop 1 (MoPac) where the alignment coincides with Alternative 3.1A. The interchange with Loop 1 would occur 1.1 miles from the interchange with Green Emerald Terrace.

2. Subsegment 3.2

The two alternative routes in subsegment 3.2 would begin and end at the same location. Both alternatives would begin at the Loop 1 interchange and end 300 feet north of the centerline of US 290. The roadway through subsegment 3.2 reduces to either a four-lane parkway or rural freeway section.