

Alternatives Developed and Considered

As Part of the Environmental Review Process for the

Downtown Access Project

(I-11/US 95/US 93)

Las Vegas, Nevada

Federal Highway Administration, Nevada Division
Nevada Department of Transportation



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TABLE OF CONTENTS

- Acronyms and Abbreviations..... iii
- 1.0 Project Background.....1-1
- 2.0 Preliminary Alternatives.....2-1
 - 2.1 Alternatives Development Process2-1
 - 2.2 Concepts or Alternatives Considered but Dismissed2-3
 - 2.3 Alternatives Retained for Detailed Study2-6
 - 2.3.1 Alternative 4: No Build Alternative2-1
 - 2.3.2 Alternative 5: Elevated with HOV Interchange at City Parkway2-1
 - 2.3.3 Alternative 6: Elevated with No HOV Interchanges2-2
 - 2.3.4 Alternative 7: Elevated with No HOV Interchanges plus Revised I-11/US 95/US 93 Connection to I-15 North.....2-2

Tables

Table 2-1. Concepts or Alternatives Considered but Dismissed2-4
Table 2-2. Community Input on Build Alternatives2-5

Figures

Figure 1-1. Study Area 1-1
 Figure 2-1. Alternatives Development Process 2-1
 Figure 2-2. Braided Ramp 2-2
 Figure 2-3. Collector-Distributor Road Example 2-2
 Figure 2-4. Alternative 5: Elevated with HOV Interchange at City Parkway 2-8
 Figure 2-5. Alternative 6: Elevated with No HOV Interchanges 2-8
 Figure 2-6. Alternative 7: Elevated with No HOV Interchanges plus Revised I-11/US 95/US 93 Connection to I-15 North 2-9
 Figure 2-7. Downtown Access Project Proposed Street Closures 2-2

Note to reader: Footnotes and table notes are denoted by brackets, such as ^[a]. If you are using assistive technology, note that some acronyms may exceed four letters and you will need to adjust your settings so that they will be read properly.

ACRONYMS AND ABBREVIATIONS

CLV	City of Las Vegas
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
HOV	high-occupancy vehicle
I-11	Interstate 11 (formerly was signed as I-515)
NDOT	Nevada Department of Transportation
RTC	Regional Transportation Commission of Southern Nevada
US 93	U.S. Highway 93
US 95	U.S. Highway 95

1.0 PROJECT BACKGROUND

NDOT, in coordination with FHWA, is preparing an EIS to evaluate potential improvements to address aging bridges and provide reliable travel along a 4-mile-long segment of Interstate 11 (I-11)/U.S. Highway 95 (US 95)/U.S. Highway 93 (US 93).^[1] The project is referred to as the Downtown Access Project. The study area is in the City of Las Vegas and Clark County, Nevada, as shown on Figure 1-1. This segment of freeway between Rancho Drive and Mojave Road has aging infrastructure and worsening congestion for current and projected (2050) travel demand, which contributes to longer travel times. A key roadway deficiency is the condition of the 1.6-mile-long Las Vegas Viaduct that carries the freeway over the Union Pacific Railroad tracks and several local streets and parking lots.

Figure 1-1. Study Area



Existing I-11/US 95/US 93 in the study area is a six-lane freeway with three lanes in each direction. West of I-15, US 95 has a high-occupancy vehicle (HOV) lane in each direction. Within the study area, there is a system interchange with I-15 (referred to as the Spaghetti Bowl) and five service interchanges (at Rancho Drive, Martin Luther King Boulevard, Casino Center Boulevard, Las Vegas Boulevard, and Eastern Avenue). The study area is primarily urban with a mix of commercial, industrial, and residential neighborhoods.

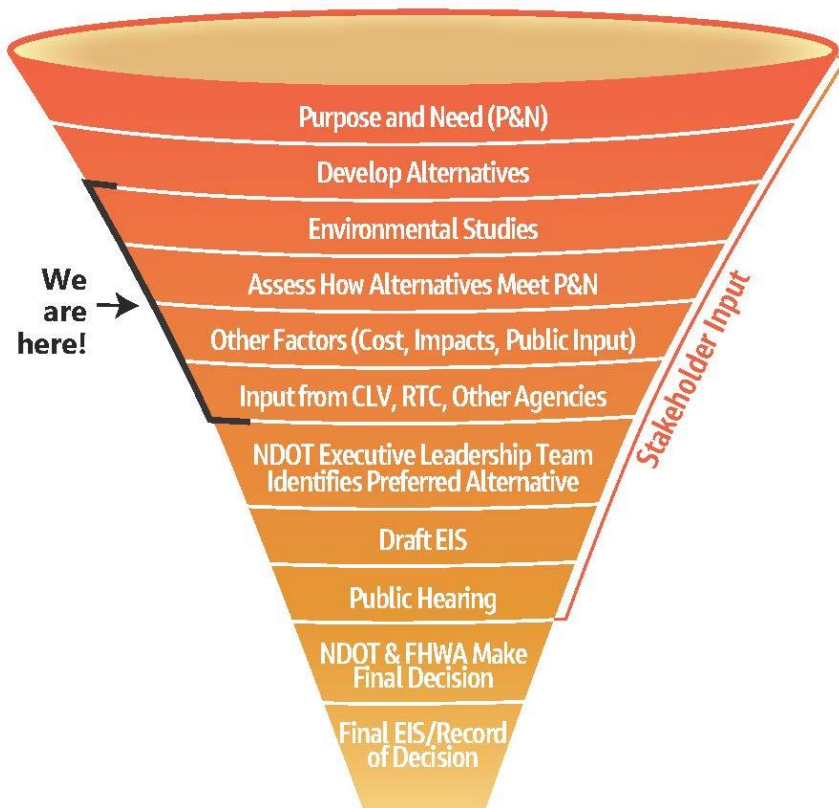
^[1] Interstate 11 (I-11) was formerly Interstate 515 (I-515).

2.0 PRELIMINARY ALTERNATIVES

2.1 Alternatives Development Process

Figure 2-1 shows the process NDOT used to develop the alternatives. The project team first consulted all previous related studies of the corridor and used that information to develop initial concepts;^[2] these initial concepts were then developed into preliminary alternatives.

Figure 2-1. Alternatives Development Process



CLV = City of Las Vegas

RTC = Regional Transportation Commission of Southern Nevada

The following four studies, plus analysis of traffic volume and crash data, helped shape the initial concepts:

- NDOT's *I-515 Corridor Study Detailed Evaluation of Alternatives* (2004) developed and evaluated five alternatives for this segment of I-11/US 95/US 93. Concepts from this study, such as braided ramps and providing additional capacity, are incorporated into the current alternatives. Braided ramps separate entering and exiting traffic by having one ramp pass over the other, thereby eliminating traffic weaving, improving safety, streamlining traffic flow, and easing congestion. Figure 2-2 shows an example of a braided ramp.

^[2] These studies are summarized in NDOT's *I-515 Alternatives Development Study Concept Report* (June 2017), Section 1.2, Study Background and Context. Document can be found here: https://ndotdap.com/wp-content/uploads/2023/10/FINAL_515_Concept_Report_June_2017.pdf.

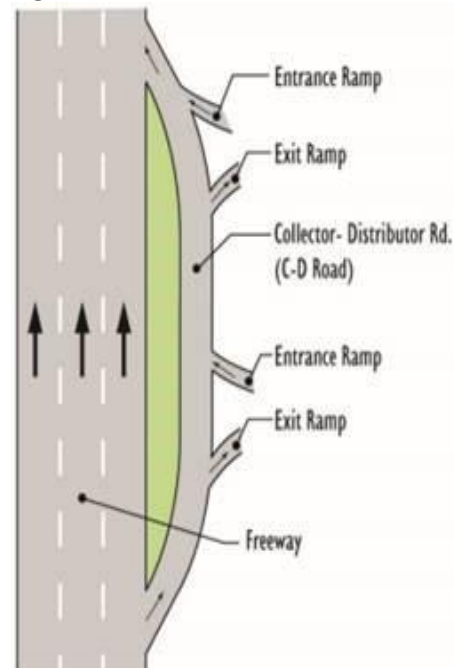
Figure 2-2. Braided Ramp



- NDOT's *I-515 Alternatives Development Study Concept Report (2017)* evaluated potential improvements along I-11/US 95/US 93 from the Spaghetti Bowl to Charleston Boulevard. This study developed and assessed 35 alternative concepts. Concepts from this study that are incorporated into the Build Alternatives include Las Vegas Boulevard, Casino Center Boulevard, and Eastern Avenue interchange improvements; potential City Parkway freeway access; and braided ramps/collector-distributor roads between Las Vegas Boulevard and I-15. Figure 2-3 shows an example of a collector-distributor road.
- NDOT's *Southern Nevada HOV Plan (2015)* and *HOV Plan Addendum (2018)* recommended adding HOV lanes and HOV-only interchanges on I-11/US 95/US 93. Portions of these recommendations are incorporated into the Build Alternatives.
- The City of Las Vegas' *Downtown Master Plan Vision 2045 (2016)* suggested a new interchange with I-11/US 95/US 93 at City Parkway. An HOV interchange at this location is incorporated for one Build Alternative.

NDOT reviewed current traffic volume data for I-11/US 95/US 93, on- and off-ramps, adjacent streets, and intersections. NDOT evaluated crash data to understand problem areas and potential solutions.

Figure 2-3. Collector-Distributor Road Example



A collector-distributor road is found at interchanges and parallels the main travel lanes of a highway and connects it to on-ramps and off-ramps.

NDOT selected certain concepts proposed in these studies that used the existing freeway corridor, in addition to the most recent traffic operations and crash data, to develop alternative concepts with the following key features: (1) constructing ramp braids and collector-distributor roads to eliminate unsafe weaving (Figures 2-2 and 2-3, respectively), (2) constructing an additional travel lane in each direction (for a total of four lanes) and auxiliary lanes between ramp entrances and exits, (3) providing an HOV lane in each direction of travel, and (4) potentially constructing an HOV-only interchange.

2.2 Concepts or Alternatives Considered but Dismissed

NDOT assessed Transportation System Management and Travel Demand Management strategies in its study of possible solutions. Although these strategies were considered, on their own they would not address project needs. Transportation System Management and Travel Demand Management elements will be included in the alternative that is selected.

Concepts and alternatives that were considered but dismissed are summarized in Table 2-1.

Three alternatives were developed to a more detailed engineering level, evaluated, and then presented to the public at a public information meeting in January 2022: Alternative 1, a South Alternative that widened and shifted I-11/US 95/US 93 to the south; Alternative 2, a North Alternative that widened and shifted I-11/US 95/US 93 to the north; and Alternative 3, a Recessed Alternative in which I-11/US 95/US 93 was widened and shifted north of the existing freeway and placed below ground in an open trench for approximately 1 mile. In addition, Alternative 4 is the No Build Alternative. These alternatives included HOV lanes as well as HOV-only interchanges at Maryland Parkway and City Parkway.

Cooperating and participating agencies and the public were given the opportunity to review and comment on the initial project alternatives in 2022 and 2023. Preliminary impacts were determined for the alternatives and presented at the public meeting. In spring 2022, the U.S. Environmental Protection Agency (EPA) expressed concerns over the high number of residential displacements that would be required under the South, North, and Recessed Alternatives (Alternatives 1, 2, and 3). FHWA shared these concerns. EPA and FHWA asked NDOT to revise the alternatives to reduce impacts and to solicit more community input to better understand what the community would like to see in a reconstructed freeway. As a result of this feedback, Alternatives 1, 2, and 3 (South, North, and Recessed Alternatives), as initially developed, were dismissed from further consideration due to their community impacts (i.e., the large number of displacements in the environmental justice community).

Also in response to this feedback, NDOT embarked on a 6-month effort to further engage those most likely to be impacted by the project. During this time, monthly meetings were held with FHWA and EPA to ensure agreement on the path forward, share progress, and receive feedback during the process.

The NDOT outreach team first opened a project office at the East Las Vegas Community Center, located near I-11/US 95/US 93 and Eastern Avenue. The team chose the community center because it is already a gathering place for those in the community. The office serves as a community resource for residents to drop in and ask questions or discuss the project.

Table 2-1. Concepts or Alternatives Considered but Dismissed

Concept	Fatal Flaw
Tunnel Bored Underground	<ul style="list-style-type: none"> • Usually only built due to natural features like mountains. • If a portion of the tunnel were placed under I-11/US 95/US 93, all access to the interchanges would either be eliminated or require a much larger footprint than the other alternatives to maintain the access. • Would need to be wider than most or all tunnels in the country. • Cost-prohibitive (\$11-13+ billion). • Tunnel cannot get too close to existing Las Vegas Viaduct support columns, which would require additional right-of-way, which would negate any key advantage of this alternative. • Maintaining traffic during construction would be very complex, costly, and significantly increase travel times.
Off-Alignment (New Corridor)	<ul style="list-style-type: none"> • Larger footprint than using the current freeway corridor. • More displacements than other alternatives (800+). • Acquiring right-of-way for a new freeway when NDOT already owns I-11/US 95/US 93 right-of-way would not be a prudent expenditure.
Double-Deck Elevated Freeway	<ul style="list-style-type: none"> • I-11/US 95/US 93 would need to shift further north to build the new viaduct so the current viaduct could remain open during construction. This would make the footprint of this alternative nearly the same as the North Alternative (Alt 2) and the original Recessed Alternative (Alternative 3). • Steep grade to top level. • Would require reconstruction of recently reconstructed Spaghetti Bowl. • Steep grade to top level.
Replace Viaduct (In-Kind)	<ul style="list-style-type: none"> • Would not address forecasted congestion and therefore does not meet purpose and need.
Replace Viaduct (Wider)	<ul style="list-style-type: none"> • Higher cost of construction and maintenance than Alternatives 1, 2, 3, 5, 6, and 7.
Alternative 1 (South Alternative)	<ul style="list-style-type: none"> • High residential displacements in an environmental justice community.
Alternative 2 (North Alternative)	<ul style="list-style-type: none"> • High residential displacements in an environmental justice community.
Alternative 3 (Recessed Alternative)	<ul style="list-style-type: none"> • High residential displacements in an environmental justice community. • High construction and maintenance cost. • Union Pacific Railroad's opposition to moving tracks.
Alternative 8 (Recessed with No HOV Interchanges)	<ul style="list-style-type: none"> • High residential displacements in an environmental justice community. • High construction and maintenance cost. • Union Pacific Railroad's opposition to moving tracks.

To effectively hear from those most likely to be impacted, the team elected to hold community conversations—small, kitchen-table style conversations—with 10 to 15 people at a time in both English and Spanish. This setting made participants comfortable and allowed individual voices to be heard. The geographic boundary for this outreach effort was agreed upon with FHWA and EPA. Attendees were recruited through a variety of methods, including a postcard, emails, text messages, phone calls,

community events, the project website, and the project office. Providing incentives was key to the success of these conversations. Each participant received a gift card, food and beverage were provided during the meetings, and the project team had activity books for young children.

Through extensive recruiting efforts, nearly 150 people participated in 15 conversations between August 2022 and January 2023. Participants included residents, businesses, faith leaders, first responders, chambers of commerce, downtown stakeholders, and the Las Vegas Paiute Tribe. At each conversation, topics of discussion included the purpose and need for the project, challenges of living near the freeway, what type of freeway the community would like to see, and potential community enhancements. Residents' number one concern with living near the freeway is their personal safety and public sanitation/hygiene in the area due to the large, unhoused population that stays under the Las Vegas Viaduct. At times, the participants were so focused on challenges with the unhoused population that it was difficult to discuss other topics. Participants agreed that this section of the freeway needs to be reconstructed, and most preferred the freeway on top of a dirt (earth) berm rather than the viaduct that is there today. Most participants did not support building an HOV interchange at Maryland Parkway because of impacts to homes and concerns about increased traffic to this mostly residential street. The community input was shared with the design and environmental teams in early 2023, and a design workshop was held to brainstorm new ideas that incorporated this input. As a result of this effort, the following changes were made to the Build Alternatives, leading to the development of Alternatives 5, 6, 7, and 8 (Table 2-2).

Table 2-2. Community Input on Build Alternatives

	Community Input	Change based on Community Input
1	Make it easier to get around when you get off the freeway	Revised interchange type at Eastern Avenue to a single point urban interchange
2	Concern for personal safety at bridge and street crossings	Bridges over surface streets will be well lit and more open
3	A trail adjacent to the freeway is not inviting and difficult to maintain	Removed proposed trail adjacent to the freeway and added Complete Streets in the area
4	Eliminate the unused space under the freeway	Freeway built on berm/embankment with bridges over surface streets in elevated alternatives
5	An HOV interchange at Maryland Parkway doesn't really make sense for the neighborhood	Removed Maryland Parkway HOV interchange in all Build Alternatives
6	Reduce impacts to small businesses	Removed City Parkway HOV interchange in Alternatives 6, 7, and 8
7	Recreation space that is maintained for the benefits of the community would be great	Area for community space to be built as part of the project

Based on feedback from EPA, FHWA, and the community, the project team revised the purpose and need statement that led to the development of Alternatives 1, 2, and 3. Based on community input, "revitalizing and connecting the community" were added as project goals. The public, stakeholders, and participating and cooperating agencies will be given additional opportunity to provide input to the

revised purpose and need statement after publication of the Notice of Intent. Alternatives 1, 2, and 3 (South, North, and Recessed Alternatives), as initially developed, were dismissed from further consideration (refer to Table 3-1). Four new build alternatives were developed: Alternative 5, Elevated with HOV Interchange at City Parkway; Alternative 6, Elevated with No HOV Interchanges; Alternative 7, Elevated with No HOV Interchanges plus Revised I-11/US 95/US 93 North and South Ramp Connections to I-15 North; and Alternative 8, Recessed with No HOV Interchanges. The No Build Alternative is Alternative 4.

NDOT presented these four alternatives, along with the No Build Alternative, at a public information meeting on August 29, 2023. During the 30-day comment period, NDOT received nearly 80 comments. Input ranged from “I live Downtown and I think this project is vastly overdue” to “No Action is my choice. You should fix the infrastructure but NOT add lanes.” Twenty-seven comments specified a preferred alternative. Of those, eight preferred the no action option and two opposed the no action option. One person supported Alternative 5. Seven people supported Alternative 7 and seven people supported 8, while two people opposed Alternative 8. Eight comments specifically supported the revised ramp from I-11/US 95/US 93 North to I-15 North in Alternative 7 for its ability to reduce congestion and improve safety. Other comments were related to right-of-way (10), HOV lanes (1 for and 3 against), traffic operations (6), and safety (5). The topics of air quality, noise, transit, bike paths, and the unhoused population were also mentioned.

Based on feedback from the public meeting and input from FHWA, Alternative 8 (Recessed with No HOV Interchanges) was dismissed from further consideration due to its larger footprint which would result in much greater displacements (372 residential displacements, or seven times greater) than Alternatives 5, 6, or 7, and due to its higher construction cost. Other factors in NDOT’s decision to dismiss Alternative 8 from further consideration were that it would be more complex and riskier to build than Alternatives 5, 6, and 7; it would be more expensive to maintain after construction; and Union Pacific Railroad opposed to moving their tracks to be on bridge over I-11/US 95/US 93 rather than having I-11/US 95/US 93 go over their tracks. Last, even though Alternative 8 had the potential to provide a benefit to the community that was bisected by I-11/US 95/US 93’s original construction by building a cap over the freeway, the cap would be very costly at nearly \$400 million for a 5-acre cap (or \$80 million per acre).

2.3 Alternatives Retained for Detailed Study

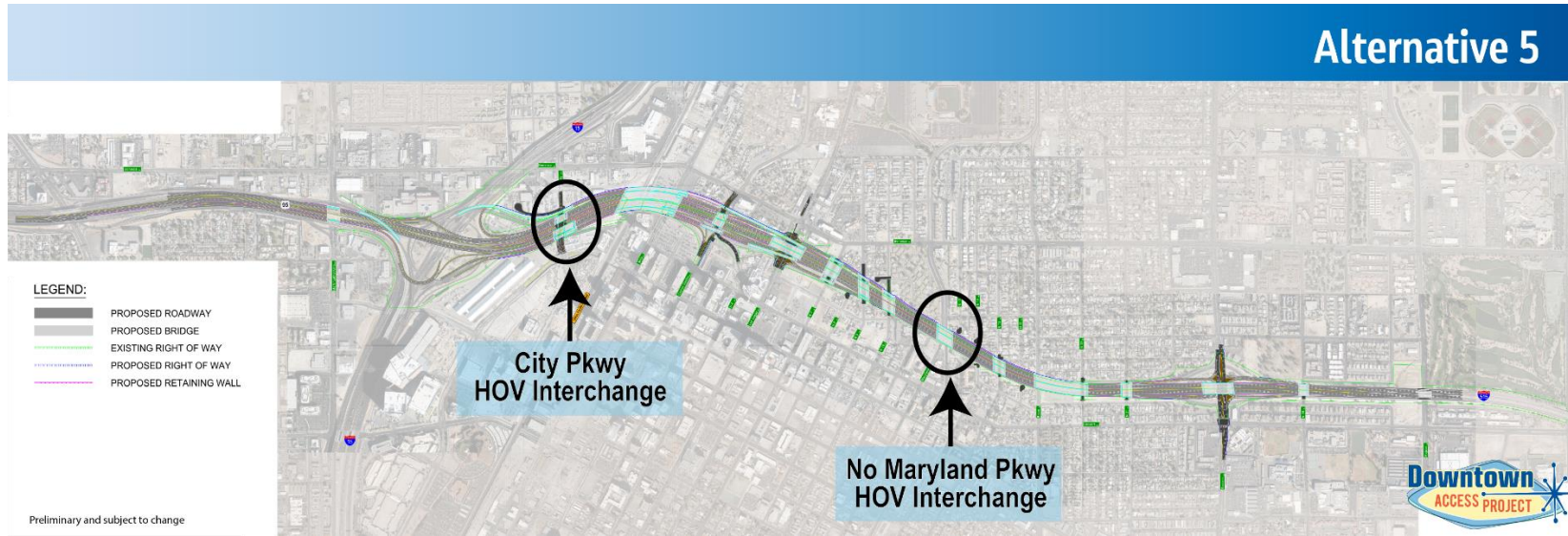
The EIS will describe and evaluate Alternatives 5, 6, and 7 to identify a Preferred Alternative that best meets the purpose and need and project goals while minimizing costs and impacts. In addition, the No Build Alternative will be considered. The No Build Alternative is referred to as Alternative 4. Alternatives 5, 6, and 7, are shown on Figures 2-4 through 2-6 (Alternatives 1, 2, 3, and 8 were considered and dismissed [refer to Section 3.2]).

The following elements are common to Alternatives 5, 6, and 7 (three-dimensional renderings and fly-through videos of each alternative are available at: <https://ndotdap.com/resources>):

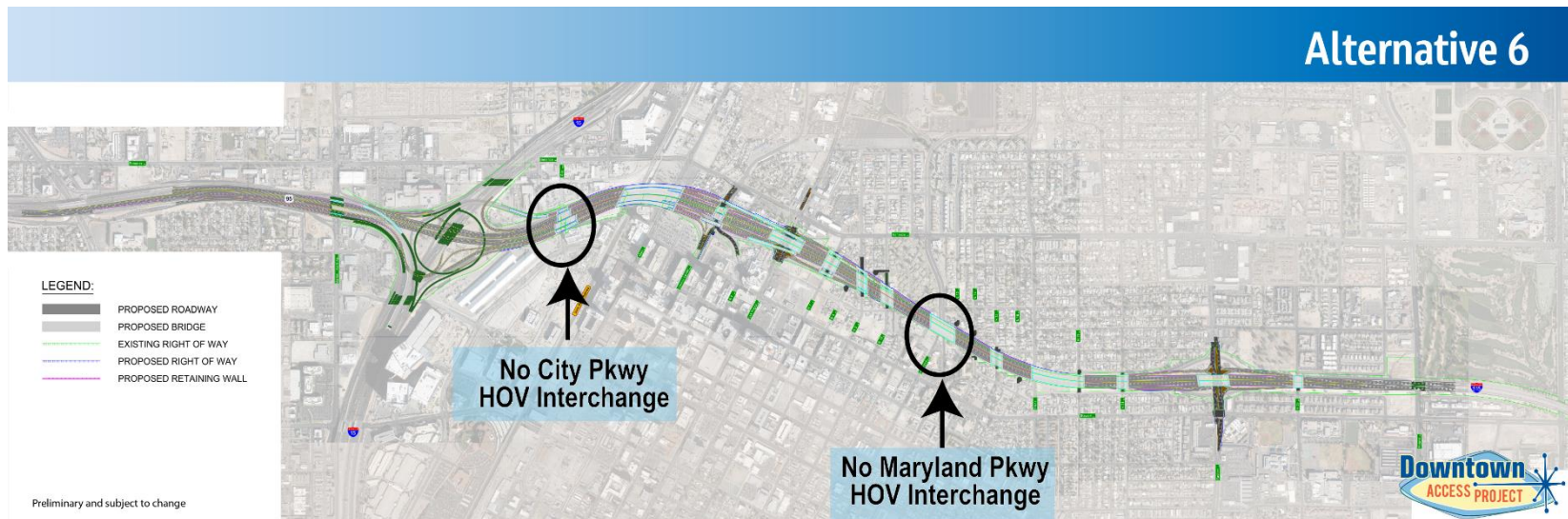
- Widens I-11/US 95/US 93 to the north.
- Replaces the 1.6-mile-long Las Vegas Viaduct between the Union Pacific Railroad tracks and 21st Street with an earth berm.

- Adds collector-distributor roads and auxiliary lanes to allow drivers a safe distance to enter and exit I-11/US 95/US 93 between the Spaghetti Bowl and Las Vegas Boulevard.
- Adds a general-purpose lane in each direction between Las Vegas Boulevard and Mojave Road (for a total of four general-purpose lanes in each direction).
- Adds an HOV lane in each direction between Martin Luther King Boulevard and Mojave Road.
- Modifies the I-15 and I-11/US 95/US 93 ramp connections in the Spaghetti Bowl and reconstructs the Eastern Avenue, Las Vegas Boulevard, and Casino Center Boulevard interchanges.
- Replaces the US 95 Trail adjacent to I-11/US 95/US 93, with Complete Streets improvements on streets near I-11/US 95/US 93 to provide a continuous bike route on the north side of I-11/US 95/US 93.

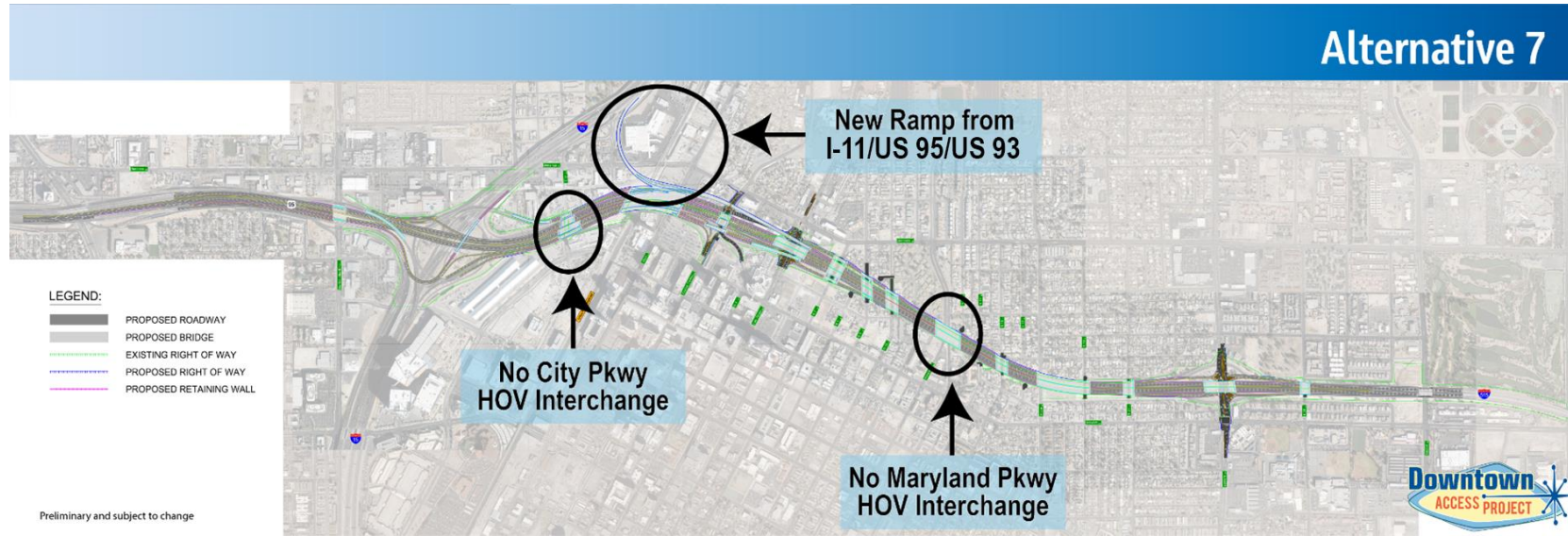
1 **Figure 2-4. Alternative 5: Elevated with HOV Interchange at City Parkway**



2
3 **Figure 2-5. Alternative 6: Elevated with No HOV Interchanges**



5 Figure 2-6. Alternative 7: Elevated with No HOV Interchanges plus Revised I-11/US 95/US 93 Connection to I-15 North



6

2.3.1 Alternative 4: No Build Alternative

The No Build Alternative means that no project to improve or reconstruct the freeway would occur, hence no changes to I-11/US 95/US 93 or adjacent streets would occur. This would avoid the cost of new construction and purchasing property associated with the proposed Build Alternatives, but it would not address the project's purpose and need.

In addition, the existing I-11/US 95/US 93 viaduct would need to be maintained. Bridge maintenance costs increase dramatically in the latter years of a bridge's service life. In 2021, NDOT invested \$30 million to rehabilitate the existing structure, which is estimated to cover the majority of maintenance needs for a 10-year period. If the bridges are not replaced in that timeframe, a more significant rehabilitation and/or partial replacement project would need to be pursued but would only be temporary before full replacement would be required.

The City of Las Vegas plans to reconstruct Las Vegas Boulevard under I-11/US 95/US 93. This will happen regardless of whether I-11/US 95/US 93 is reconstructed, so it is considered part of the No Build Alternative.

The No Build Alternative assumes all the other projects programmed in the Regional Transportation Plan would be built.

2.3.2 Alternative 5: Elevated with HOV Interchange at City Parkway

Alternative 5 would widen I-11/US 95/US 93 to the north and include an HOV interchange at City Parkway. The previously proposed HOV interchange at Maryland Parkway was removed based on community input and to reduce residential displacements in the vicinity.

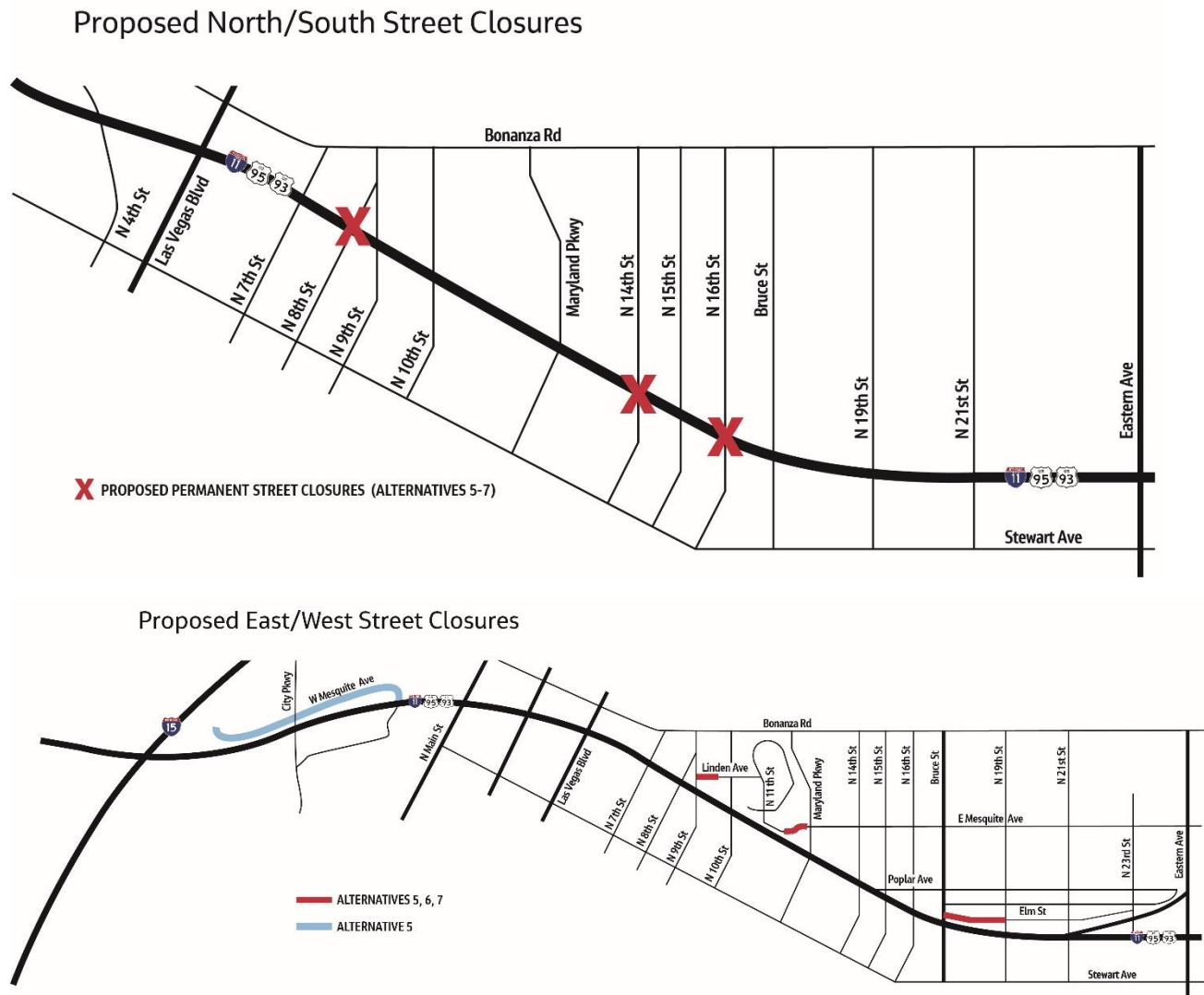
From Rancho Drive to I-15, the freeway would be reconstructed within the existing footprint; from I-15 to 19th Street, the freeway would be widened to the north; and from 19th Street to Mojave Road, the freeway would be reconstructed within the existing footprint.

Alternative 5 would have five lanes in each direction (four general-purpose lanes and one HOV lane). The 1.6-mile-long viaduct would be removed, and the new freeway would be constructed at a similar height, with the freeway on an earth berm rather than on a viaduct. I-11/US 95/US 93 would bridge over local streets and the Union Pacific Railroad tracks.

Three north-south streets (8th, 14th, and 16th Streets) that currently cross under I-11/US 95/US 93 and portions of four east-west streets (W. Mesquite Avenue, Linden Avenue, E. Mesquite Avenue, and Elm Street) that parallel I-11/US 95/US 93 would be permanently closed (refer to Figure 2-7). These closed streets would either tie into other streets or dead end in a cul-de-sac.

Alternative 5 would modify several of the ramps in the Spaghetti Bowl. An HOV-only interchange would be built at City Parkway. The Casino Center Boulevard, Las Vegas Boulevard, and Eastern Avenue interchanges would be reconstructed. The Rancho Drive and Martin Luther King Boulevard interchanges would not change.

Figure 2-7. Downtown Access Project Proposed Street Closures



2.3.3 Alternative 6: Elevated with No HOV Interchanges

Alternative 6 is similar to Alternative 5 (widens I-11/US 95/US 93 to the north and no HOV interchange at Maryland Parkway) but does not include an HOV interchange at City Parkway. Alternative 6 would minimize residential displacements at Maryland Parkway and business displacements at City Parkway.

Street closures would be the same as Alternative 5, except for W. Mesquite Avenue, which would not be affected or closed. Closed streets would either tie into other streets or dead end in a cul-de-sac.

2.3.4 Alternative 7: Elevated with No HOV Interchanges plus Revised I-11/US 95/US 93 Connection to I-15 North

Alternative 7 is similar to Alternative 6 (widens I-11/US 95/US 93 to the north and no HOV interchanges at Maryland Parkway or City Parkway) and would improve freeway access between I-11/US 95/US 93 and I-15. Alternative 7 would modify the northbound collector-distributor road and reconfigure how

drivers on I-11/US 95/US 93 access I-15. These changes would improve overall freeway operations and eliminate weaving on I-15 and I-11/US 95/US 93.

The Alternative 7 alignment is generally the same as Alternative 6. The largest difference is this alternative proposes a new ramp that would connect I-11/US 95/US 93 north to I-15 north. Starting just east of Las Vegas Boulevard, the exit ramp for the collector-distributor road would connect I-11/US 95/US 93 north to I-15 (both north and south). Along the collector-distributor road, the new ramp would diverge away from I-11/US 95/US 93 and eventually merge with I-15 north around D Street. The ramp would have a more gradual curve than it does today. This alternative would also reconstruct access from I-11/US 95/US 93 south to I-15 north. This modification eliminates two freeway merge areas between on- and off-ramps.

Street closures would be the same as under Alternative 6 (Figure 2-7). Closed streets would either tie into other streets or dead end in a cul-de-sac.