

EXECUTIVE SUMMARY

SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

SPRINGDALE NORTHERN BYPASS



HIGHWAY 412

Benton and Washington Counties

May 2004

Federal Highway Administration

**Arkansas State Highway
and Transportation Department**

Springdale Northern Bypass
AHTD Job Number 001966
F.A.P.NH-9399(5)

SPRINGDALE NORTHERN BYPASS

Highway 412

Supplemental Draft Environmental Impact Statement

Submitted Pursuant to: 42 U.S.C. 4332(2)(c)

49 U.S.C. 303

23 U.S.C. 138

by the

U.S. Department of Transportation - Federal Highway Administration

and the


Arkansas State Highway and Transportation Department

Cooperating Agencies

U.S. Army Corps of Engineers - Little Rock District

U.S. Fish and Wildlife Service

5/7/04
Date of Approval


Arkansas State Highway and Transportation Department

5/7/04
Date of Approval


Federal Highway Administration

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This project is a proposal to construct a four-lane, fully controlled access highway, designed to Interstate standards, on new location bypassing existing Highway 412 north of Springdale, Arkansas. The proposed highway would be between 19.8 to 20.6 miles (31.9 to 33.2 kilometers) in length through the Arkansas counties of Washington and Benton. Several alternatives were considered including the No-Action Alternative.

Comments on this EIS are due by
July 10, 2004 and should be sent to:

Environmental Division
Arkansas State Highway and Transportation Department
P. O. Box 2261
Little Rock, AR 72203-2261

SUMMARY

INTRODUCTION

The Arkansas State Highway and Transportation Department (AHTD), in cooperation with the Federal Highway Administration (FHWA), is proposing to construct a bypass of existing Highway 412 through Springdale. The four-lane, fully controlled access facility (Interstate type) will be located in northern Washington and southern Benton Counties, Arkansas.

A Draft Environmental Impact Statement (DEIS) was prepared and finalized January 31, 2002 for this proposed project. As a result of comments received at the DEIS Location Public Hearing, a decision was made to prepare a Supplemental Draft Environmental Impact Statement (SDEIS). This SDEIS will provide additional information to address these comments and to aid in the designation of a preferred alternative to be further examined in the Final Environmental Impact Statement (FEIS).

The project is known as the Springdale Northern Bypass. All alternative alignments begin at an interchange with existing Highway 412 west of Tontitown where the highway presently changes from four to five lanes and will end with an interchange on existing Highway 412 at Beaver Lake. The range of length of the proposed project alternatives being examined in this SDEIS is between 19.8 and 20.6 miles (31.9 and 33.2 kilometers). Both toll and non-toll funding alternatives are under consideration for each alignment. Major communities in and around the study area include Springdale, Tontitown, Elm Springs, Bethel Heights, Lowell, Sonora, Rogers, Bentonville, Fayetteville, and Cave Springs.

Highway 412 is part of a Congressionally-designated High Priority Corridor (HPC) running east and west across northern Arkansas. This project was initiated in 1996 with a Major Investment Study (MIS), followed by the beginning of the Environmental Impact Statement (EIS) in 1998.

Three phases of work are involved in the study process for the Springdale Northern Bypass.

- Phase I includes the Major Investment Study, the Scoping Process, and development of the project purpose and need.

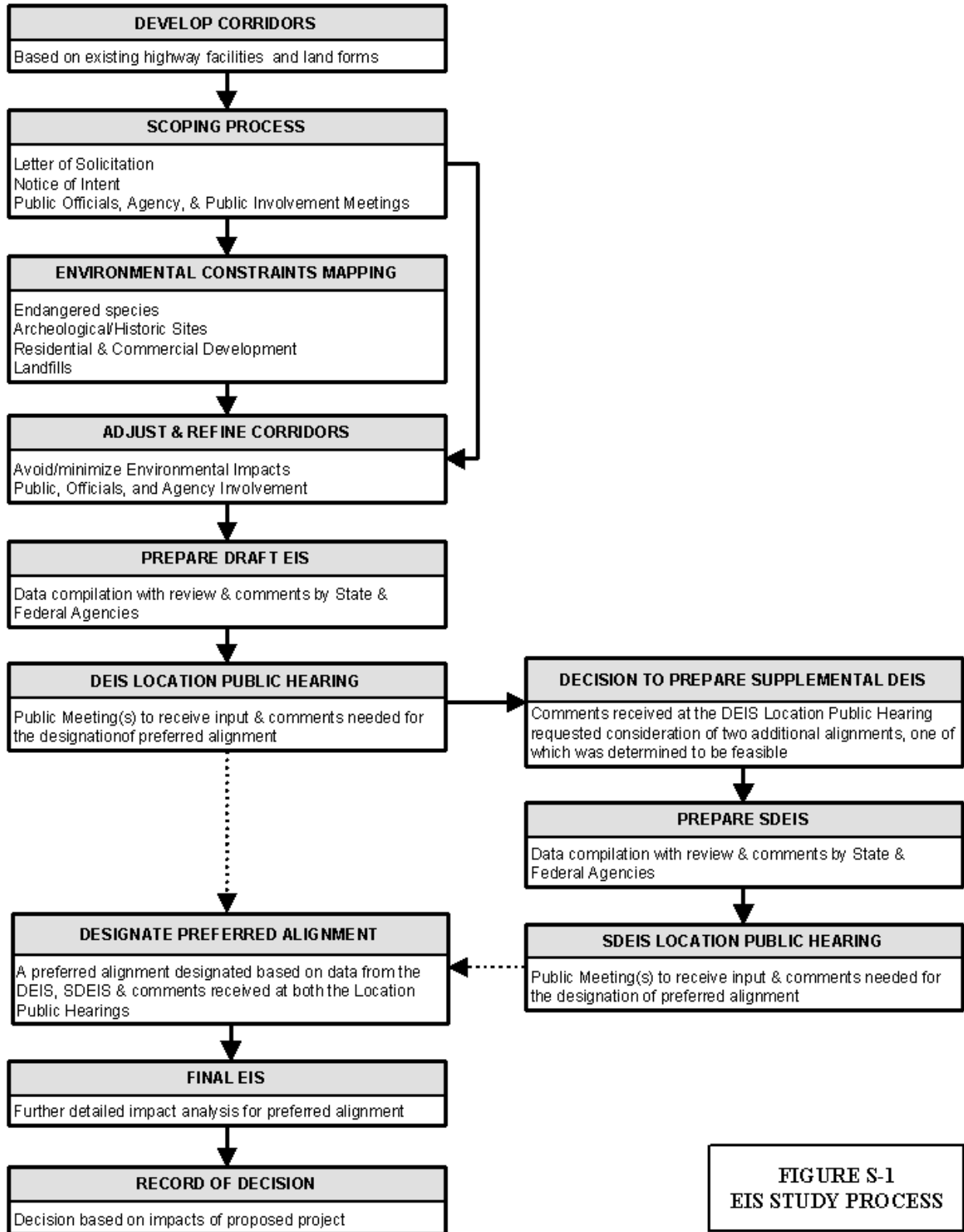
- Phase II includes the development of corridors within the study area, the refinement of alignments within the corridors, the detailed environmental study of those alignments, the preparation of a DEIS, and the designation of a preferred alignment.
- Phase III includes the preparation of a FEIS and a Record of Decision that documents the selected alignment decision.

This process ensures that only those alignments that adequately meet the purpose and need of the project are fully evaluated and that those alignments are developed to minimize the potential environmental impacts. Figure S-1 illustrates a simplified flow chart of the EIS process followed for the preparation of this document.

PURPOSE AND NEED

To determine the purpose and need of this project, several transportation related issues were examined. These include: the results of the Major Investment Study; the needs of the existing highway system; the condition of the Highway 412 corridor; the current and future capacity of the existing facility; forecast regional growth; transportation demand; intermodal demand; regional long-range planning; existing and future congestion along the existing facility; existing and future delay along the existing facility; and safety of traffic along the existing facility including crash history analysis. Meetings with the general public and local officials were an integral part of the development of the purpose and need. The following is a list of the major points of the purpose and need:

- Function as a link in the Highway 412 High Priority Corridor, as well as the state and regional transportation system
- Improve safety
- Improve circulation
- Improve connectivity
- Improve intermodal access
- Minimize traffic through the cities



In summary, the purpose of this project is to provide safe and efficient movement of traffic within the region while accommodating through and intermodal travelers and alleviating congestion along existing facilities.

ALTERNATIVE DEVELOPMENT AND DRAFT ENVIRONMENTAL IMPACT STATEMENT

A planning level MIS was conducted within the urbanized area of northwest Arkansas. This effort considered several construction and non-construction strategies to implement an improved transportation system. A working group was developed including representatives from area cities and counties, the AHTD, the FHWA, the Metropolitan Planning Organization (MPO) for northwest Arkansas (Northwest Arkansas Regional Transportation Study Policy Committee), and other interested parties. This group ultimately concluded that a new location alignment north of Springdale best met the overall project purpose and need as developed by the working group, as well as numerous local objectives. This conclusion was adopted by the MPO Policy Committee.

The development of alignments for the Springdale Northern Bypass followed a multi-step approach in order to screen possible highway locations against increasingly more detailed environmental information. Corridor development began by identifying design constraints throughout the project area. Design issues that placed limitations on corridor location included avoidance of undesirable topography and consideration of potential interchange locations.

An Environmental Impact Statement is also underway to determine the location for a connector facility between the Northwest Arkansas Regional Airport (NWARA) and either Highway 412 or I-540. From the beginning of the Springdale Northern Bypass and the NWARA Access Road projects, commitments were made to closely coordinate the projects and investigate the possibility of shared roadway sections for the two projects to minimize impacts to the area. This would reduce costs and lessen impacts to the region caused by road construction and operation. As the corridor and alignment studies progressed for the two projects, information used for the NWARA Access Road DEIS was also used in the development of the Springdale Northern Bypass corridors and vice versa.

Environmental constraints such as endangered species habitat, dense residential or business development, and landfills were identified and utilized to refine the placement of the corridors for the bypass. During this process, the corridors were examined and reviewed by the public, local officials, and resource agencies.

This process provided sufficient information to further narrow the corridors into four new location alignments, each with a toll and a non-toll funding alternative, which were advanced to detailed study. Information for each line such as length, lists of interchange locations, grade separations, and estimates of impacts were presented in the DEIS. Improvements along existing Highway 412 were also considered, but would involve several hundred residential and business relocatees, and were eliminated on this basis.

The No-Action Alternative was retained throughout the study as a basis for comparing the relative benefits and impacts of the alternatives. The No-Action Alternative consists of no improvements to the present system and no expenditures other than regular maintenance of the existing route. The majority of the existing route would remain a five-lane facility.

Location Public Hearings were held in April 2002 to display DEIS study information and maps of the alignments. After a review of comments received from citizens, public officials and public agencies, the next step in the environmental process would normally be to select an alignment based on the information in the DEIS and the public input. The Final Environmental Impact Statement would then complete the analysis of this selected alignment, document the impacts associated with the selected alignment, develop and present any proposed mitigation, and provide justification for the selection.

However, comments received at the public hearing suggested two additional alignments for consideration that were not documented in the DEIS. These additions were a "split interchange" alignment that uses a segment of I-540 as a part of the proposed bypass, and a "northern" alignment.

SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

Evaluation of these comments led to the determination that a Supplemental Draft Environmental Impact Statement (SDEIS) would be prepared to document the feasibility and

reasonableness of these proposed alignments and compare any identified impacts to the previously evaluated alignment alternatives.

A determination was made that the "split interchange" alignment was not feasible based on current accepted engineering design principles related to future traffic volumes, overlapping routes, route continuity and weaving movements.

The "northern" alignment crosses I-540 between the Wagon Wheel Road Interchange and the Highway 264 Interchange and is located north of Callahan Mountain. Evaluation by the AHTD and the FHWA led to the determination that this new alignment, designated Line 5, is feasible and must be fully considered and documented in a Supplemental Draft Environmental Impact Statement (SDEIS). This alignment diverges from Lines 2, 3 and 4 east of Highway 112, extends north of Callahan Mountain and rejoins Lines 3 and 4 at Highway 71B. This alignment avoids the Cave Springs recharge area and potential impacts to the associated endangered species. The addition of this new alignment establishes four alignments for further analysis and impact comparisons within the center portion of the project (Segments B-E) that is the focus of this SDEIS.

Other changes that are under study are: (1) A redesign of the area's I-540 interchanges to manage the future projected traffic volumes and continue local access to I-540, and; (2) placement of a local access interchange for Lines 3, 4, and 5 at Highway 265 (Old Wire Road) instead of Highway 264.

The January 2002 DEIS presented information on four alignments. These four alignments were a select group of full-length route combinations comprised of segments that were studied separately. Various segments could be "preferred" and joined together into alignments to utilize those segments that best meet the purpose and need of the project while minimizing overall impacts. The DEIS provided engineering and environmental documentation for all 56 miles (90 kilometers) of the 16 reasonable and feasible route segments utilized within the four alignments.

As a result of this process, Line 2/4 was chosen as the Preferred Line through Segment A-B because it has a better alignment and design for an interchange with the NWARA Access

Road; encourages concurrent segments with the NWARA Access Road; and minimizes cumulative impacts between the two projects. It also avoids most of the City of Elm Springs, thereby minimizing community division and related impacts, and minimizes property severance impacts. Figure S-2 shows the location of this segment.

Within Segment E-F, Lines 3 and 2/4 had minimal differences in social, economic and environmental impacts. Line 2/4 is preferred by the City of Springdale for its consistency with the City's long-range land use plans. Therefore, Line 2/4 was established as the Preferred Line through Segment E-F. Figure S-2 shows the location of this segment.

The Preferred Line Segments A-B and E-F are not included in the detailed analysis related to this SDEIS since the focus of the SDEIS is limited to Segments B-E. However, these Preferred Segments were: (1) combined with Segments B-E of Lines 2, 3, 4, and 5 to conduct traffic analysis for comparison purposes; (2) evaluated to update information on the potential impacts of the segment; and (3) analyzed for updated conceptual cost information. This information will be used for Alignment comparison and impact summary. These segments, if selected, will be further evaluated in the FEIS.

The four alignments under study in the SDEIS within the center portion (Segments B-E) of the proposed project are Line 2 (blue), Line 3 (gold), Line 4 (dashed green) and Line 5 (pink). As discussed previously, two segments of the "Preferred Alignment," i.e., Segments A-B and E-F, will be combined with the various alignments being studied within Segments B-E for this SDEIS analysis. These alignments are illustrated in Figure S-2.

New conceptual designs of the directional interchange for the I-540/bypass alignments require the relocation of Wagon Wheel Road and a new I-540/ Wagon Wheel Road local access interchange for Lines 2, 3 and 4. Line 5 would allow the existing I-540/Wagon Wheel Road Interchange to remain. These changes are illustrated in Figures S-3 through Figure S-5.

SUMMARY OF BENEFICIAL AND ADVERSE IMPACTS

Impacts to the social, economic, natural, and cultural environment would result from construction of any of the alignments evaluated in this document. Many of the perceived

benefits that are related to the purpose and need of the project cannot be measured, and are therefore listed as follows.

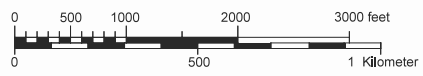
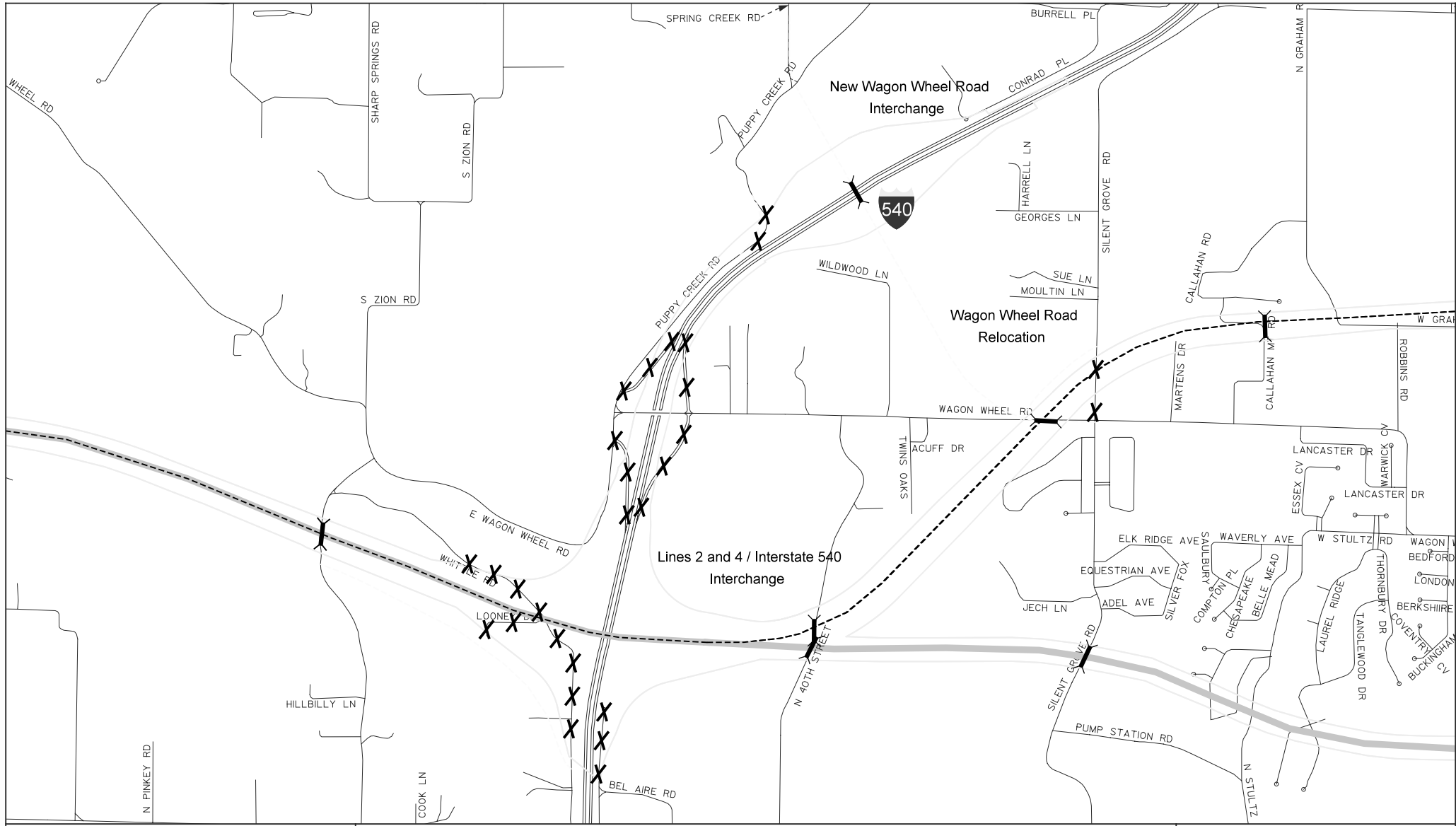
- 1) Provide a vital link in the Highway 412 High Priority Corridor and the National Highway System, as well as the state and regional transportation system
- 2) Improve connectivity between Highway 412 and I-540
- 3) Improve the connectivity of existing air, rail, truck and bus transportation modes
- 4) Improve efficiency of transportation for the trucking industry and businesses dependent on trucking
- 5) Improve traffic safety
- 6) Provide safe and efficient movement of traffic within the region while accommodating through travelers
- 7) Promote the retention of a higher level of service on the new facility by the construction of a fully access-controlled highway
- 8) In the year 2024, the estimated annual delay is expected to be reduced from 1,870,000 hours to 650,000 hours with the construction of any of the bypass alternatives
- 9) Minimize traffic through cities
- 10) Alleviate congestion along existing facilities

Summaries of the eight most important adverse impact areas for Segments B-E are included in Table S-1. Table S-2 contains a summary of these same adverse impact areas for each alignment. Table S-3 displays a comparison of the major advantages and disadvantages for Segment B-E of each alignment.

ALIGNMENT SELECTION PROCESS

All alternatives are under consideration and a preferred alignment will not be chosen until a full evaluation of the comments received from resource agencies, the local officials, and the public has been performed. Using the comments received from both the DEIS and SDEIS

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Legend

- Road Relocation
- Proposed Overpass
- Estimated Right of Way
- Obliterated Roadway
- Line 2
- Line 4

Figure S - 3
Lines 2 and 4/I-540
Interchange Location and
Associated Modifications

Job Number - 001966
 AHTD/Environmental - GIS - Pearson
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Figure S-5: 8.5 x 11

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**Table S-1
SEGMENT IMPACT SUMMARY**

	Length miles (km)	Acreage (hectares)	Existing Land Use Converted to Highway Right-of-Way							Cultural Resources-Direct Impacts				
			Commercial acres (hec.)	Residential acres (hec.)	Industrial acres (hec.)	Woodland acres (hec.)	Agricultural acres (hec.)	Prime Farmland acres (hec.)	Farmland of S. I. acres (hec.)	Recorded Archeological Sites	Historic Structures	GLO Resources	Cemeteries	Old Roads
Line 2 B-E	8.2 (13.2)	597 (242)	39 (16)	88 (36)	0 (0)	102 (41)	352 (142)	58 (23)	78 (32)	5	2#	1	0	1
Line 3 B-E	8.6 (13.8)	654 (265)	45 (18)	66 (27)	61 (25)	43 (17)	337 (136)	97 (39)	86 (35)	1	0	0	0	1
Line 4 B-E	8.9 (14.3)	685 (277)	24 (10)	80 (32)	10 (4)	93 (38)	463 (187)	86 (35)	80 (32)	3	1#	2	0	1
Line 5 B-E	8.9 (14.3)	622 (252)	19 (8)	54 (22)	17 (7)	72 (29)	419 (170)	78 (32)	64 (26)	1	1#	0	0	1
Segment A-B*	6.5 (10.5)	366 (148)	21 (8)	59 (24)	0 (0)	64 (26)	194 (79)	17 (7)	12 (5)	1	0	0	0	0
Segment E-F*	4.6 (7.4)	236 (96)	3 (1)	26 (11)	0 (0)	73 (30)	112 (45)	11 (4)	0 (0)	0	0	0	0	0

determined ineligible to National Register of Historic Places

Continued	Relocations									Noise Impacts**		Hazardous Materials Impacts
	Residential Owners	Residential Tenants	Businesses	Farms	Non-Profit Organizations	Total	Minority Households	Elderly Households	Low Income Households	Estimated Receptors - 2004 Traffic	Estimated Receptors - 2024 Traffic	
Line 2 B-E	82	14	29	3	3	131	12	8	5	37	55	0
Line 3 B-E	31	14	26	1	0	72	2	5	1	10	34	0
Line 4 B-E	45	11	16	2	1	75	4	10	5	13	45	0
Line 5 B-E	40	5	28	4	0	77	3	6	2	8	21	0
Segment A-B*	28	2	4	0	0	34	0	4	1	11-12 ⁺	20-24 ⁺	1 auto salvage yard
Segment E-F*	9	2	1	1	0	13	0	1	0	0-1 ⁺	3	0

+The number of noise receptors
in this segment change according
to the alignment/traffic

Continued	Floodplain Impacts			USACE Section 404 Impacts					Surface Water Quality Impact Ratings		
	Special Flood Hazard Area Linear Ft (Lin. Meter)	Floodway Linear Ft (Lin. M)	Longitudinal Encroachments Linear Ft (Lin. M)	Springs	Stream Crossings				Low	Medium	High
					Ephemeral	Intermittent	Perennial	Total			
Line 2 B-E	0 (0)	4050 (1234)	300 (91)	0	1	15	8	24	10	5	1
Line 3 B-E	1200 (366)	2140 (652)	1220 (372)	0	0	8	3	11	3	4	1
Line 4 B-E	0 (0)	3550 (1082)	300 (91)	0	1	12	8	21	6	5	1
Line 5 B-E	1200 (366)	600 (183)	0 (0)	0	1	3	1	5	5	1	0
Segment A-B*	1000 (305)	0 (0)	0 (0)	3	3	4	3	10	7	2	0
Segment E-F*	400 (122)	0 (0)	0 (0)	0	5	1	0	6	6	0	0

*Shared Alignments within Segment

**Noise receptors with 10 dBA or greater increase using Toll Alternative traffic. 10 dBA level receptors also include the receptors that approach the noise abatement criteria (66 dBA).

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**Table S-2
ALIGNMENT IMPACT SUMMARY**

	Length miles (km)	Acreage (hectares)	Total Cost * (in million \$)	Existing Land Use Converted to Highway Right-of-Way							Cultural Resources-Direct Impacts				
				Commercial acres (hec.)	Residential acres (hec.)	Industrial acres (hec.)	Woodland acres (hec.)	Agricultural acres (hec.)	Prime Farmland acres (hec.)	Farmland of S. I. acres (hec.)	Recorded Archeological Sites	Historic Structures	GLO Resources	Cemeteries	Old Roads
Line 2	19.8 (31.9)	1199 (485)	314	63 (25)	173 (70)	0 (0)	239 (97)	658 (266)	86 (35)	90 (36)	6	2#	1	0	1
Line 3	20.2 (32.5)	1256 (508)	341	120 (49)	151 (61)	10 (4)	180 (73)	643 (260)	125 (51)	98 (40)	2	0	0	0	1
Line 4	20.6 (33.2)	1287 (521)	310	48 (19)	165 (67)	10 (4)	230 (93)	769 (311)	114 (46)	92 (37)	4	1#	2	0	1
Line 5	20.6 (33.2)	1224 (495)	300	50 (20)	139 (56)	10 (4)	209 (85)	725 (293)	106 (43)	76 (31)	2	1#	0	0	1

#Determined ineligible to National Register of Historic Places

Continued	Relocations									Noise Impacts***		Hazardous Materials Impacts
	Residential Owners	Residential Tenants	Businesses	Farms	Non-Profit Organizations	Total	Minority Households	Elderly Households	Low Income Households	Estimated Receptors - 2004 Traffic	Estimated Receptors - 2024 Traffic	
Line 2	119	18	34	4	3	178	12	13	6	50	82	1 auto salvage yard
Line 3	68	18	31	2	0	119	2	10	2	22	61	1 auto salvage yard
Line 4	82	15	21	3	1	122	4	15	6	24	68	1 auto salvage yard
Line 5	77	9	33	5	0	124	3	11	3	20	45	1 auto salvage yard

Continued	Floodplain Impacts			USACE Section 404 Impacts					Surface Water Quality Impact Ratings		
	SFHA** Linear Ft (Lin. Meter)	Floodway Linear Ft (Lin. M)	Long. Encroachments Linear Ft (Lin. M)	Springs	Stream Crossings				Low	Medium	High
					Ephemeral	Intermittent	Perennial	Total			
Line 2	1400 (427)	4050 (1234)	300 (91)	3	9	20	11	40	10	5	1
Line 3	2600 (488)	2140 (652)	1220 (372)	3	8	13	6	27	3	4	1
Line 4	1400 (427)	3550 (1082)	300 (91)	3	9	17	11	37	6	5	1
Line 5	2600 (488)	600 (183)	0 (0)	3	9	8	4	21	5	1	0

*Includes ROW and Construction costs for the Non-Toll Alternative. Toll Alternatives will require an additional \$21 million for toll plazas.

**Special Flood Hazard Area

***Noise receptors with 10 dBA or greater increase using Toll Alternative traffic. 10 dBA level receptors also include the receptors that approach the noise abatement criteria (66 dBA).

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<p align="center">Table S-3 Segment B-E Comparison</p>		
<p>Segment B-E</p>	<p>Advantages</p>	<p>Disadvantages</p>
<p>Line 2</p>	<ul style="list-style-type: none"> • Best minimizes community impacts to Bethel Heights • Avoids costs & difficulties associated with crossing active quarry • Requires least estimated ROW • Lowest prime farmland impacts (58 acres) 	<ul style="list-style-type: none"> • 131 estimated total relocatees (highest) • Requires relocation of I-540/Wagon Wheel Interchange and Wagon Wheel Road. • Directly impacts four planned subdivisions and Springdale Public School • Interchange impacts to Spring Creek • Crosses Fitzgerald Mountain • Highest number of noise receptors • Highest number of stream crossings (24) & potential impacts to water quality
<p>Line 3</p>	<ul style="list-style-type: none"> • Avoids subdivision developments • 2nd lowest number of stream crossings (11) 	<ul style="list-style-type: none"> • 72 estimated total relocatees • Requires relocation of I-540/Wagon Wheel Interchange and Wagon Wheel Road. • Interchange impacts to Spring Creek • Bisects Bethel Heights • Crosses active quarry • Highest estimated cost • Highest prime farmland impacts (97 acres)
<p>Line 4</p>	<ul style="list-style-type: none"> • Avoids costs & difficulties associated with crossing active quarry • Lowest number of business relocatees (16) 	<ul style="list-style-type: none"> • 75 estimated total relocatees • Requires relocation of I-540/Wagon Wheel Interchange and Wagon Wheel Road. • Interchange impacts to Spring Creek • Bisects Bethel Heights • Directly impacts one new subdivision • Requires most estimated ROW • 2nd highest number of stream crossings (21)
<p>Line 5</p>	<ul style="list-style-type: none"> • Avoids impacts associated with relocation of I-540/Wagon Wheel Interchange and Wagon Wheel Road. • Avoids interchange impacts to Spring Creek • Lowest number of stream crossings (5) & potential impacts to water quality • Lowest number of noise receptors 	<ul style="list-style-type: none"> • 77 estimated total relocatees • Bisects Bethel Heights • Crosses active quarry • Directly impacts one subdivision development

Location Public Hearings, and based upon the information in the DEIS and the SDEIS, an alignment will be identified to carry forward into the Final Environmental Impact Statement.

OTHER MAJOR FEDERAL ACTIONS IN THE AREA

One other federal action is currently under study in the area. The FHWA and the NWARA Authority is preparing an Environmental Impact Study for the construction of the Northwest Arkansas Regional Airport (NWARA) Access Road to connect the southern entrance of the airport to either I-540 or Highway 412. The NWARA Access Road project is being coordinated with the Springdale Northern Bypass.

OTHER FEDERAL ACTIONS AND PERMITS REQUIRED

The following actions must occur in order to implement this project:

- 1) The issuance of a Section 404 permit by the U.S. Army Corps of Engineers for the placement of dredged and fill material in waters of the United States as required by Section 404 of the Clean Water Act.
- 2) The issuance of a Section 401 Water Quality Certification by the Arkansas Department of Environmental Quality as required by the Clean Water Act.
- 3) The issuance of a National Pollutant Discharge Elimination System (NPDES) Permit by the Arkansas Department of Environmental Quality as required by Section 402 of the Clean Water Act.
- 4) Completion of the Section 106 process for consideration of historic properties in conjunction with the Arkansas Historic Preservation Program and the Advisory Council on Historic Preservation.
- 5) Ongoing coordination with the Cherokee and Osage tribes during the planning and construction stages of the project.

FURTHER INFORMATION

This Executive Summary was derived from information in the Supplemental Draft Environmental Impact Statement. The SDEIS is a compilation of extensive scientific and engineering information required for compliance with federal and state rules and regulations.

Copies of the SDEIS have been placed at the Springdale and Fayetteville Public Libraries and various municipal and county offices throughout the study area. The following contact information can also be used to request copies of the SDEIS:

Mail: Arkansas State Highway and Transportation Department
Environmental Division
P.O. Box 2261
Little Rock, AR 72203-2261

Telephone: (501)569-2281

E-mail: springdalenorthernbypass@ahtd.state.ar.us