APPENDIX E. UNIVERSE OF ALTERNATIVES (LEVEL 1) SCREENING REPORT

PROPEL US 31

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US 31 North

UNIVERSE OF ALTERNATIVES (LEVEL 1) SCREENING REPORT

FINAL

March 27, 2024

Prepared By

PARSONS

This report was finalized prior to the issuance of several Executive Orders (EOs) and one United States Department of Transportation (USDOT) order, including:

- Federal EOs: EO 14154, EO 14148, EO 14173, and EO 14281;
- State EOs: EO 25-49, EO 25-37, and EO 25-14;
- USDOT Order 2100.7

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EXECUTIVE SUMMARY

ProPEL is an Indiana Department of Transportation (INDOT) initiative for transportation planning that uses collaborative Planning and Environment Linkages (PEL) studies to consider environmental, community, and economic goals. This *Universe of Alternatives (Level 1) Screening Report* has been prepared for the ProPEL US 31 North study in Fulton and Miami Counties and is based on scoping and data collection efforts that have been documented since the study began in August 2022, as well as from feedback received from the ongoing public and stakeholder involvement received to date. The study corridor is approximately 27 miles long, extending from County Road (CR) 300 North, just south of the Eel River in Miami County, to CR 700 North, just south of the Fulton/Marshall County line, as shown in Figure 1.

Figure 1. ProPEL US 31 North Study Corridor

The Universe of Alternatives is a set of 55 possible solutions to the transportation issues along US 31 within the study limits. Overall, each concept in the Universe of Alternatives was qualitatively evaluated to determine if it had the potential to meet the purpose and need that have been established for the study, as identified in the separate *Purpose and Need Report*, as well as evaluated for practicality.

Concepts that did not satisfy the purpose and need, or were deemed impractical, were eliminated from further consideration, while concepts that satisfied the purpose and need, and deemed practical, will be advanced for further consideration in the Level 2 screening.

Five concepts, which are outside the control of INDOT, cannot be fully assessed for practicality. These concepts will not be advanced to the Level 2 screening. Improvements considered as part of this study will not preclude others from pursuing or implementing these concepts within the study area. Although these concepts will no longer be considered as a stand-alone solution to the identified transportation needs in the study area, INDOT will continue to coordinate with the appropriate agency/entity to share information, including public input received during the study.

Performance measures are the means of evaluating the ability of a concept to satisfy the purpose and need. The alignment with these performance measures determined how the concepts will be incorporated into the next level of screening for further refinement and application within the study corridor. The concepts were defined as Primary Concepts, Complementary Concepts, or Design Elements for the next level of screening. The results of the Universe of Alternatives (Level 1) screening process are summarized in Figure 2.

Figure 2. Summary of Universe of Alternatives Screening

UNIVERSE OF ALTERNATIVES

- 55 high level concepts, including the No-Build Alternative
- Qualitative screening against purpose and need and practicality

30 Concepts were eliminated from further study. The eliminated concepts generally include capacity improvements and were eliminated for a variety of reasons including lack of applicability or potential benefits to the study corridor.

25 Concepts are recommended to be carried forward for further study in Level 2 Screening. In addition to the No-Build Alternative, 17 practical concepts were identified to have the potential to adequately address the purpose and need of the study as Primary Concepts (PC) or Complementary Concepts (CC). The remaining 7 concepts are carried forward as Design Elements (DE); these concepts will not be screened in further evaluations but may be incorporated into other alternatives.

- Corridor Improvements:
  - Access Management (CC)
  - Freeway (Free-Flow Facility with Full Control of Access) (PC)
  - Median Safety Improvements (CC)
- Off-Corridor Improvements
  - Adjacent Intersection Improvements (CC)
- Intersection Improvements
  - Add or Lengthen Turn Lanes (Right or Left) (CC)
  - Realign Skewed Intersection (CC)
  - Add / Extend Acceleration/Deceleration Lanes (CC)
  - Intersection Sight Distance Improvements (CC)
  - Traffic Control Visibility Upgrades (DE)
  - Cross Road Overpasses / Underpass (PC)
  - Convert to Interchange (PC)
  - Unsignalized Improvements (PC)
- Interchange Improvements
  - Ramp Terminal Intersection Improvements (CC)
- Spot Improvements
  - Pavement Marking Improvement (DE)
  - Roadway Signage Improvements (DE)
  - Wildlife Crossing (DE)
  - Roadway Lighting (CC)
  - Roadway Drainage Improvement (CC)
  - Gateway/Corridor Treatments (DE)
- Traffic Systems Operation and Maintenance
  - Speed Management (DE)
  - Warning Systems (CC)
- Policy Considerations
  - Alternative Fuel/Electric Vehicle Considerations (DE)
- Transit & Non-motorized Improvements
  - Bike/Pedestrian Facilities (CC)
  - Non-Motorized User Accommodations (CC)

1. INTRODUCTION

1.1. BACKGROUND & PURPOSE OF THIS REPORT

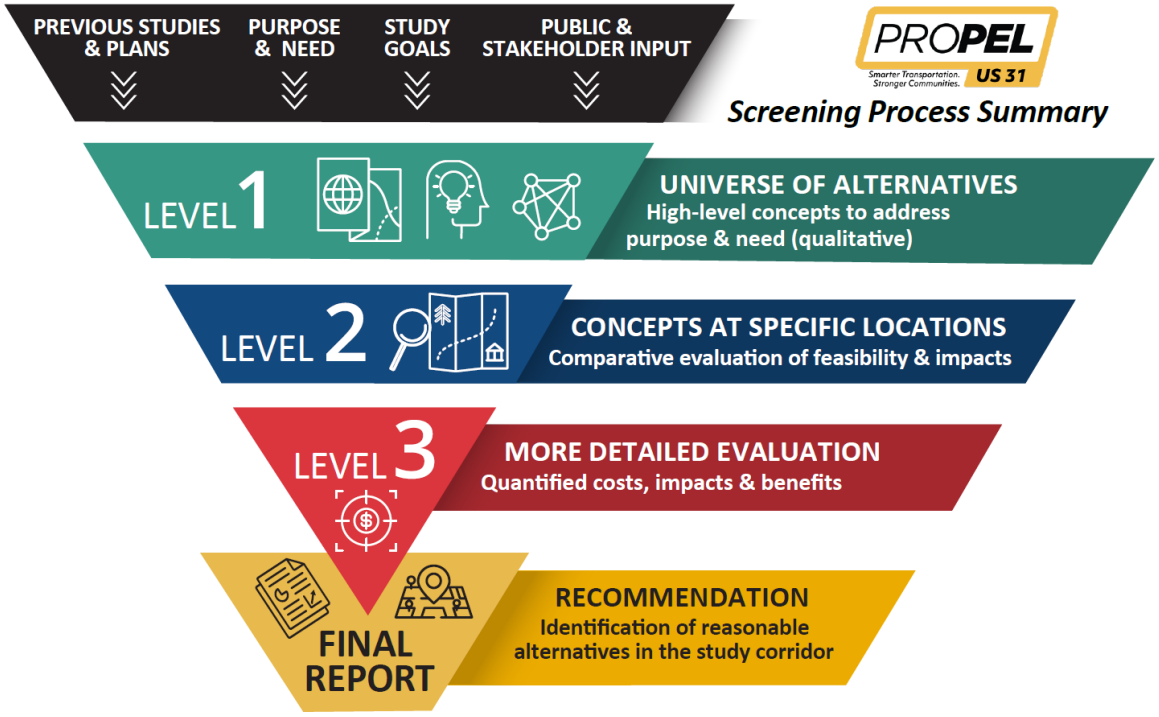
This report documents the process and results of the Universe of Alternatives (Level 1) screening for the ProPEL US 31 North study. Contained within this document are the initial range of solutions for consideration, a Universe of Alternatives.

The Universe of Alternatives is the first of three levels of screening planned in this study, as shown in Figure 3. The purpose of the Universe of Alternatives (Level 1) screening is to qualitatively identify concepts with a high probability of meeting the purpose and need so that they may be carried forward and evaluated at specific locations within the US 31 North study corridor. As the study progresses, the screening and evaluation of the remaining alternatives in terms of feasibility and potential impacts will be performed in subsequently greater levels of detail – both qualitative and quantitative. Meeting the purpose, needs, and study goals will be confirmed in each subsequent screening, and public and stakeholder input will be sought at each level. The output of this process will be identification of reasonable and practical alternatives in the study corridor.

The concepts that comprise the Universe of Alternatives were identified from previous studies, current plans, and public and stakeholder input as well as typical industry guidelines and solutions for safety and operations for highways like US 31. Inputs to this report include:

- ProPEL US 31 North *Purpose and Need Report*;
- ProPEL US 31 North *Existing Transportation Conditions Report*; and
- ProPEL US 31 North *Resource Agency, Stakeholder, and Public Involvement Summary #1*.

Figure 3. Summary of ProPEL US 31 North Alternatives Development and Screening Process



1.2. SUMMARY OF PURPOSE & NEED

The *Purpose and Need Report* for the ProPEL US 31 North study identified six needs and three associated purposes in the study corridor, in addition to seven study goals, as shown in Figure 4. The study purposes and the associated performance measures are the basis for the screening of concepts at the Universe of Alternatives phase. The seven study-specific goals as well as additional performance measures (transportation performance, impacts and benefits, and costs) will be considered during the more detailed future screenings that will occur as part of the study as described above.

Figure 4. Summary of Purpose, Need, and Goals for the ProPEL US 31 North Study

2. PUBLIC INVOLVEMENT AND AGENGY COORDINATION

The *Draft Universe of Alternatives (Level 1) Screening Report* for the ProPEL US 31 North study was made available for public review on November 13, 2023 on the study website, with hard copies also provided at six publicly-accessible locations in Rochester and Akron. As stated in the published bulletin for its release, INDOT invited public feedback on the document through December 22, 2023. Comments could be provided on the study website or in-person at various community events and office hours. During this timeframe, postcards to more than 8,500 local residents were mailed, handouts were distributed along the corridor, three community office hours were held, and one community event was attended, in the study area. The public availability of the report and associated comment period was also posted on social media. Additionally, INDOT held a virtual briefing to the Stakeholder Advisory Committee (SAC) on November 15, 2023 to solicit local feedback and help spread word of the availability of the document. Concurrently, the *Universe of Alternatives (Level 1) Screening Report* was distributed to federal, state, and local resource agencies and tribal nations for review and comment.

The public involvement and stakeholder coordination related to the *Universe of Alternatives (Level 1) Screening Report* comment period is briefly summarized below. Full details of involvement and outreach efforts is provided in the *Resource Agency, Stakeholder & Public Involvement Summary (RASPI) #3*, which will be available on the study website after the alternatives development and screening process is complete and a third public information meeting (PIM) for the study has occurred. Additionally, Appendix A provides comment-response summary of all public comments received and copies of the agency and stakeholder letters.

Overall, 34 comments from the public, 1 response from a resource agency, 2 responses from Tribal Nations, 1 letter from the US 31 Coalition, and 2 letters from SAC members were received during the Universe of Alternatives comment period. As is typical, many comments covered more than one topic.

Similar to public comments received in the previous public information meetings for the study, the overall importance of US 31 for both daily life in the study area as well as for facilitating more regional travel was clear in the comments received. In terms of potential solutions, the public comments can be grouped as follows:

- Support of further limiting access/free-flow conditions on US 31. (6 comments)
- Prioritizing more local, east-west access and/or no changes at all. (10 comments)
- Consideration of overall safety. (6 comments)
- Mobility of emergency services regardless of the type of improvement. (6 comments)
- Mobility of farm equipment regardless of the type of improvement. (2 comments)

In contrast to the Universe of Alternatives that is intended to be conceptual, the majority of public comments (18 comments) recommended solutions at specific properties, locations, and/or cross-streets with US 31, and made recommendations maintain or improve access, safety, or other considerations. There were two comments in regard to the Universe of Alternatives process (study area limits and practicality methodology), and one comment providing information on the location of the Historic Michigan Road Association in context to US 31.

The Indiana Department of Natural Resources Division of Historic Preservation and Archaeology (IDNR DHPA) responded on December 18, 2023 with no comments at this stage in the process. The Forest County

Potawatomi Community Tribal Historic Preservation Office (FCPC THPO) responded on December 20, 2023 and offered a finding of No Historic Properties affected of significance to the tribe for the US 31 North study area. The Miami Tribe of Oklahoma responded on January 18, 2024, providing comments on the draft screening report for the US 31 South study area, primarily regarding study goals to include consideration of Tribal Resources and tribal input. In coordination between all study areas, the study goals were updated. The US 31 Coalition also submitted comments regarding process (specifically regarding practicality) as well as the need to maintain driver consistency and expectations to both the US 31 North and South study area and comments on access management/facility type. The comments from the US 31 North SAC included concerns with impacts on proposed concepts to local agricultural needs, use of parallel routes, and effectiveness of Wildlife Crossings. Details of all comments received and correspondence will be included in the aforementioned RASPI #3.

All comments received were reviewed and coordinated with INDOT and all ProPEL US 30 and US 31 study areas. Within the public comments, there were no specific comments on the Universe of Alternatives screening results or the concepts to be carried forward for Level 2 screening. Based on the comments received, in this report, modifications were incorporated into the definition and evaluation for some concepts. Clarification was added to the Parallel Route Improvements concept and the results section for any concepts that are not practical; there were no substantive changes to the *Draft Universe of Alternatives (Level 1) Screening Report* based on public input. Location-specific feedback, such as improvements at a certain property or cross-street, will be carried forward to be considered in the Level 2 and Level 3 screenings for the ProPEL US 31 North Study, as appropriate. Additionally, based on ongoing coordination with all ProPEL US 30 and US 31 study areas, clarifications were made to further explain several concepts, particularly Access Management (see Section 5.2.3) and Freeway (Free-Flow Facility with Full Control of Access) (see Section 5.2.5). Minor updates were also made to the assessment of the Tolling concept (see Section 4.8.1.). Naming conventions for several items, including the name of this report and to some Complementary Concepts, were modified for clarity. An errata in the Results section for the Added Travel Lanes concept (see Section 4.2.1.) was also corrected.

3. SCREENING METHODOLOGY

This section describes the screening approach that was used to evaluate the Universe of Alternatives for the ProPEL US 31 North study corridor. As stated in the Introduction, the purpose of this screening is to identify those concepts with a high probability of meeting the purpose and need for the study. Throughout the study, concepts must meet the purpose and need to be carried forward.

The screening approach is summarized in Table 1 and is focused on general transportation performance measures directly related to the defined purpose and need for the study. Each of the concepts was examined against the performance measures to differentiate between those with a high probability of meeting the purpose and need or not, by assigning a rating of YES, NO, or NEUTRAL. To advance to the next level of screening, each concept:

- Must have at least one YES rating, i.e., meet one element of the purpose and need; and
- Must be considered practical.

NEUTRAL ratings, which are those not affecting the defined purpose and need element at this time, do not factor into the determination. Concepts determined to be practical with only neutral ratings will be carried forward for further evaluation.

Table 1. Qualitative Screening Approach for Concepts

Study Purpose & Needs for Level 1 Screening	Performance Measures *Will the Concept:*	Rating*	To Advance:
Safety for All Users | *Improve roadway safety in the study corridor for all users:* • Safety Concerns Along US 31 • Safety Concerns at Intersections with US 31 • Access Control Issues	• Reduce conflict points, particularly at intersections with elevated crash indices? – *or* – • Incorporate crash reduction measures to improve safety? – *or* – • Improve multimodal safety? – *or* – • Prioritize and consolidate access points on US 31?	YES, NO, or NEUTRAL	Must have at least one YES rating. NEUTRAL ratings are considered YES ratings for the screening. Must also be deemed Practical.
Study Area Mobility | *Meet the mobility needs of residents, businesses, and service providers in the area:* • Ability to Access US 31 • Cross-Highway Connectivity	• Maintain or improve cross-highway connectivity at important crossing locations? – *or* – • Maintain or improve access to and from US 31 along important routes?[1]	YES, NO, or NEUTRAL	
Regional and Statewide Mobility | *Enhance the efficiency and reliability of US 31 as a regional and statewide corridor:* • Regional and Statewide Mobility	• Maintain or improve free-flow operations on US 31	YES, NO, or NEUTRAL	
***Rating Criteria:** **Yes:** Actively supports the defined purpose and need **No:** Contrary to the defined purpose and need **Neutral:** Could not be assessed at this stage due to a lack of information or if there were both positive and negative characteristics to addressing practicality criteria. The information needed to evaluate these concepts is expected to be available at later stages of this study, and for this reason "NEUTRAL" ratings are treated as "YES" ratings in this screening process.			

Practicality was considered in the screening process. For the purposes of this screening, a concept is considered practical (i.e. reasonable) if it could be accomplished without an extraordinarily high cost, is appropriate in scope and scale for the transportation problems identified, is feasible from the standpoint of technology and logistics, and is not expected to create other unacceptable impacts such as severe operational or safety problems, or serious socioeconomic or environmental impacts.[2] To be deemed practical, the concept

[1] Important crossing locations were defined through conversations with stakeholders and are documented in the *ProPEL US 31 North Purpose and Need Report*.

[2] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable Alternatives includes those that "are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).

must meet the criteria shown in Table 2. A "NEUTRAL" rating was assigned to concepts that either could not be assessed at this stage due to a lack of information or if there were both positive and negative characteristics associated with the concept. The information needed to evaluate these concepts is expected to be available at later stages of this study, and for this reason, "NEUTRAL" ratings are treated as "YES" ratings in this screening process.

Table 2. Study Area Practicality Assessment Criteria

Number	Performance Measure	Is the Concept…
1	Able to be accomplished without an extraordinarily high cost.	Available and capable of being implemented after taking into consideration costs?
2	Technologically and logistically feasible to implement.	Available and capable of being implemented after taking into consideration existing technology and logistics?
3	Appropriate in scope and scale for the transportation problems identified.	Considered to be rational and not excessive given the needs of the corridor?
4	Not expected to create other unacceptable impacts.	Likely to result in severe socioeconomic or environmental impacts, or create severe operational or safety problems?

At the end of the Universe of Alternatives (Level 1) screening process, the concepts were grouped into two categories:

Eliminated from Further Study – Considered to not adequately address the purpose and need of the study and/or not practical. These concepts are not recommended to be carried forward for further evaluation in the ProPEL US 31 North study.

Carried Forward for Further Study – Considered to have the potential to address the purpose and need of the study and are considered practical. These concepts are recommended to be carried forward for further evaluation in the alternative development and screening process for the ProPEL US 31 North study.

The concepts that will be carried forward for further study were placed into a hierarchy based on how well each concept aligns with the stated seven performance measures listed in Table 1. Based on the alignment with the performance measures, the concepts were categorized as follows:

- **Primary Concepts:**
  - A practical transportation improvement concept that would address the majority of the identified transportation needs in the study area and/or that could be advanced as a stand-alone alternative. Primary Concepts will be evaluated in the Level 2 screening process.
  - Provides benefits associated with six or more performance measures.
- **Complementary Concepts:**
  - A practical transportation improvement concept that would address some of the identified transportation needs in the study area. Complementary Concepts may provide some benefit at specific locations, but do not address a majority of the identified needs. They may be added to a Primary Concept, which could enhance its

ability to address the identified needs or may be considered for location-specific application(s). Complementary Concepts will be evaluated in the Level 2 screening process.

  - Provides benefits associated with four or five performance measures.

- **Design Elements:**
  - A practical transportation improvement concept that would not address the identified transportation needs in the study area; however, it may provide some benefit when incorporated into an improvement concept. Design Elements will be carried forward for consideration; however, they will not be explicitly evaluated in the Level 2 screening process but may be incorporated, where applicable, into alternatives advancing from this PEL study.
  - Provides benefits associated with less than four performance measures.

Primary Concepts will be the basis of the Level 2 Screening as they could provide substantive improvements to the study area. Complementary Concepts will be evaluated for benefits at locations where the concepts are likely to improve the study area. Design Elements will provide benefits within the study area but are not sufficient to be considered as stand-alone alternatives. Design elements and Complementary Concepts will be incorporated as appropriate into Primary Concepts.

Some concepts, even if eliminated from further consideration in this screening, may appear as part of the alternatives considered in future screenings. For instance, an adjacent intersection or parallel route improvement may be implemented as part of the Convert to Interchange concept. This is because converting an intersection to an interchange could require improvements or modifications in other locations to address the potential adverse impacts caused by those improvements. Other concepts, which are outside the control of INDOT, could not be fully assessed for practicality and are therefore removed from further consideration in the alternatives development and screening process. Although these concepts will no longer be considered as a stand-alone solution to the identified transportation needs in the study area, INDOT will continue to coordinate with the appropriate agency/entity to share information, such as public input received during the study.

4. UNIVERSE OF ALTERNATIVES

This section provides a brief description of the 55 concepts, which include:

- The No-Build Alternative;
- 10 corridor improvement concepts;
- Two off-corridor improvement concepts;
- Nine intersection improvement concepts;
- Four interchange improvement concepts;
- 10 spot improvement concepts;
- Five traffic systems operation and maintenance (TSMO) improvement concepts;
- Eight policy considerations; and
- Six transit and non-motorized improvement concepts.

Included with the description of each is a detailed table summarizing how each concept meets each need/for each performance measure and an identification of the hierarchy of how it is being moved forward (i.e., Primary Concept, Complementary Concept, or Design Element. The screening results are summarized in Table 58 in Section 4 of this report.

4.1. NO-BUILD ALTERNATIVE

4.1.1. NO-BUILD

The No-Build Alternative represents the conditions expected if no improvements are made to the US 31 North study area beyond routine maintenance activities and projects programmed in INDOT's Next Level Roads Construction Program and/or the Statewide Transportation Improvement Program. The No-Build Alternative is considered as the baseline condition that various build alternatives are compared against to evaluate their effectiveness in addressing the identified study area needs, as well as their impacts to the human and natural environments.

Table 3. No-Build Alternative Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The No-Build Alternative does not reduce conflict points.
	Incorporate Crash Reduction Measures	No	The No-Build Alternative does not incorporate crash reduction measures.
	Improve Multimodal Safety	No	The No-Build Alternative does not improve safety for non-motorized or special-use vehicles.
	Prioritize and Consolidate Access Points	No	The No-Build Alternative does not change access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The No-Build Alternative does maintain existing mobility across the study area.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The No-Build Alternative does maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The No-Build Alternative does maintain existing free-flow conditions.
Practical		Yes	The No-Build Alternative requires no expenditure of resources and has no impacts to the surrounding area.

Result:
The No-Build Alternative will not address the identified safety needs, though it does meet the criteria for maintaining mobility and maintaining free-flow conditions. The No-Build Alternative is required to be considered in the PEL study, as well as any subsequent environmental reviews conducted in accordance with the National Environmental Policy Act (NEPA). Therefore, this alternative will be carried forward for further consideration in the PEL study and will serve as a baseline for comparison to build alternatives.

4.2. CORRIDOR IMPROVEMENTS

4.2.1. ADDED TRAVEL LANES

Additional travel lanes may be provided along the entire corridor or in select segments to address existing and/or future capacity needs. Additional lanes could be added to the inside of US 31, occupying the area currently used for a grass median. If additional lanes are added to the outside of US 31, acquisition of additional right-of-way (ROW) may be required.

Table 4. Added Travel Lanes Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The additional lanes will increase the number of conflict points.
	Incorporate Crash Reduction Measures	No	The addition of travel lanes does not incorporate crash reduction measures.
	Improve Multimodal Safety	No	The addition of travel lanes reduces safety for non-motorized users or special-use vehicles by increasing the roadway crossing distance.
	Prioritize and Consolidate Access Points	No	The addition of travel lanes does not change the number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	No	The addition of travel lanes degrades the ability to cross the study corridor.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition of travel lanes does maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition of lanes maintains existing free-flow conditions.
Practical		No	The Added Travel Lanes concept would not meet Criteria 1, 3 or 4 identified in Table 2 as it would require substantial costs to add capacity to a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). If the added travel lanes were added to the outside, it could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Added Travel Lanes concept meets two study area needs; however it is not practical due to the extraordinarily high costs to add capacity to a roadway that does not require it and potentially severe impacts to adjacent areas and resources.

4.2.2. ELEVATED LANES

Elevated lanes are additional travel lanes that are built above ground level on structure. The primary purpose of elevated lanes is to separate highway traffic from local traffic, bikes/pedestrians, or obstacles/constraints at ground level. Access to/from the elevated lanes are provided only at select public roadways via interchanges. This condition is referred to as full control of access.

Table 5. Elevated Lanes Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The elevated lanes will reduce the number of vehicles that will conflict with entering/crossing traffic, however, the number of conflict points will not be reduced.
	Incorporate Crash Reduction Measures	No	No specific crash reduction measures are associated with this concept as conflicts are unchanged.
	Improve Multimodal Safety	Yes	The elevated lanes will reduce the number of vehicles that will conflict with non-motorized users and special-use vehicles.
	Prioritize and Consolidate Access Points	No	The elevated lanes will not change access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The elevated lanes maintain the existing ability to cross the study corridor.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The elevated lanes maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The elevated lanes improve free-flow conditions by providing additional capacity that is separated from cross- or entering/exiting traffic.
Practical		No	The Elevated Lanes concept would not meet either Criteria 1 or 3 identified in Table 2 as it would require substantial costs to add capacity to a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

X

Result:
The Elevated Lanes concept meets four study area needs; however, it is not practical due to its extraordinarily high costs to add capacity to a roadway that does not require it. The Elevated Lanes concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.2.3. ACCESS MANAGEMENT

Access management improvements refer to strategies that control and optimize the way vehicles and pedestrians enter, exit, and interact with the highway, which is typically accomplished by eliminating conflict points. Access Management can be accomplished through three control types as defined below:

1. Full control of access – Connections are provided only with selected public roads through interchanges. Driveway connections (residential and commercial) are not permitted. Freeways have full control of access.
2. Partial control of access – Connections are provided with public roads via interchanges and/or at-grade intersections. The number of roadway connections and/or driveway connections (residential and commercial) may be reduced in number and/or limited to right-in/right-out movements. The number of median openings may also be reduced. US 31 within the study area has partial control of access; however, several areas do not meet INDOT's access management guidelines.
3. No control of access – No degree of access control exists; however, the number and location of roadway and driveway connections are typically limited by the minimum standards defined by INDOT and/or local access management guidelines. Most of the roadways intersecting US 31 within the study area have no control of access.

Access management improvements may include, but are not limited to, the following:

- Converting a driveway to a right-in / right-out configuration;
- Partial control of access, which allows connections with select public roads and driveways to serve abutting properties;
- Construct or modify local access roads;
- Closure and/or consolidation of driveways;
- Cul-de-Sac a minor road to eliminate an existing connection to US 31;
- Closure of median openings along the study corridor; and
- Full control of access, which allows connections with select public roads via interchanges.

Table 6. Access Management Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	Access management options will reduce access points and thereby reduce conflict points along US 31.
	Incorporate Crash Reduction Measures	Yes	Reduction in access points is a crash reduction measure associated with fewer conflict points.
	Improve Multimodal Safety	No	Access management will not improve safety for non-motorized users or special-use vehicles.
	Prioritize and Consolidate Access Points	Yes	The primary objective of access management is to prioritize and consolidate access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	No	Access management will reduce locations for E-W crossings of US 31.
	Maintain or Improve Access to/from US 31 along important routes	Neutral	Access management will reduce locations for E-W crossings of US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Access management will improve free-flow conditions along US 31 by reducing locations for conflicting movements from access points.
Practical		Yes	The Access Management concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Access Management concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Access Management concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

Note: Decisions regarding access management will be made during project development and will be analyzed and documented as part of the NEPA environmental review process. These activities would occur after the PEL study is completed. For the purposes of this PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies.

4.2.4. AUXILIARY LANES

Auxiliary lanes are additional, continuous lanes on a highway that connect between two intersections or interchanges to accommodate higher volumes of traffic entering and exiting between those two points. They are intended to provide additional capacity on the mainline between two access points to improve traffic flow for merging, exiting, and through-traffic movements. These lanes can help reduce congestion and the likelihood of accidents caused by abrupt lane changes between these locations. Auxiliary lanes are not intended to serve as continuous right turn lanes or provide access to multiple driveways.

Table 7. Auxiliary Lanes Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	The addition of auxiliary lanes reduces conflict points by allowing vehicles to enter or exit the traffic stream of US 31 at highway speed and does not create a speed differential conflict point.
	Incorporate Crash Reduction Measures	Yes	The addition of auxiliary lanes is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	The addition of auxiliary lanes provides an increased opportunity for special-use vehicles to enter/exit the US 31 traffic stream safely.
	Prioritize and Consolidate Access Points	No	The addition of auxiliary lanes does not change the number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition of auxiliary lanes maintains existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition of auxiliary lanes improves access to/from US 31 as noted in the conflict points above.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition of auxiliary lanes maintains free-flow conditions along US 31.
Practical		No	The Auxiliary Lanes concept would not meet Criteria 4 identified in Table 2 as the addition of lanes to the outside of US 31 could result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Auxiliary Lanes concept meets six study area needs; however, it is not practical due to its potential to impact adjacent areas while providing limited benefits to a roadway that does not require it. The Auxiliary Lanes concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.2.5. FREEWAY (FREE-FLOW FACILITY WITH FULL CONTROL OF ACCESS)

A freeway would provide for free flow[3] of traffic along the mainline travel lanes by eliminating all at-grade intersections within the study corridor. Access to adjacent areas would be provided via interchanges with select public roads (i.e., full control of access). A freeway may be designated an interstate if certain conditions are met, however, not all freeways are interstates. INDOT is not including or considering applying interstate design standards along the US31 North study corridor.

Table 8. Freeway (Free-Flow Facility with Full Control of Access) Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	A freeway limits access points and thereby conflict points.
	Incorporate Crash Reduction Measures	Yes	Conversion of a roadway to a freeway is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	A freeway upgrade will include grade separated crossing structures and interchanges that eliminate conflicts between US 31 and non-motorized users / special-use vehicles.
	Prioritize and Consolidate Access Points	Yes	A freeway facility will limit access points to the freeway.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	Crossing structures associated with freeway may improve mobility at some locations while restricting mobility across US 31 at other locations. Further evaluation is required to determine the impacts and locations of the crossings.
	Maintain or Improve Access to/from US 31 along important routes	Neutral	Freeway access at the selected important routes will be provided via interchanges that improve the safety of the access points as compared to existing at-grade intersections. Additional evaluation is required to determine impacts to other routes.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	By definition, the freeway allows for free-flow conditions.

[3] A free-flow facility is a road that has no traffic signals, stop signs, or yield signs. These traffic control devices introduce periodic delay that interrupts travel. A freeway is one example of a free-flow facility. Another example is a road with no traffic signals, stop signs, or yield signs that has no or partial control of access.

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Practical		Neutral	As noted in the description, a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in this Universe of Alternatives screening document (e.g., Access Management, Convert to Interchange, Underpass/Overpass). Although this concept could require high costs for implementation and may create severe socioeconomic and/or environmental impacts, additional information is required to fully assess its practicality. Furthermore, there is a high level of public and stakeholder interest in this facility type and further information is needed to understand potential benefits, impacts, and costs relative to other potential facility types (e.g., free flow (with partial access control), expressway, etc.) This information will be available in the Level 3 screening analysis.

Result:
The Freeway (Free-Flow Facility with Full Control of Access) concept meets seven study area needs and is practical as it meets the practicality criteria in Section 2. The Freeway (Free-Flow Facility with Full Control of Access) concept will be carried forward for further consideration as a Primary Concept since it meets seven study needs and is practical.

Note: A freeway is a specific facility type that could be created by combining multiple improvement concepts identified in this Universe of Alternatives screening document (e.g., Access Management, Convert to Interchange, Underpass/Overpass). Other facility types (e.g., free flow with no or partial access control, expressway [i.e., no direct residential driveway connections]) could also be created by combining multiple improvement concepts identified in this Universe of Alternatives screening document in different ways. These facility types would provide a range of options to address safety, mobility, and access needs in the study area. A major defining characteristic of facility type is the level of access management (see Section 5.2.3 for further details).

A common theme of the public comments received to date (including those received during the Universe of Alternatives screening comment period) is that maintaining local access to/from US 31 (i.e., alternatives with less control of access) is important and should be considered as part of the PEL study.

As a result, the Level 2 alternatives screening will focus on Primary Intersection improvements. The options for potential facility types in the US 31 North study area will be evaluated in the Level 3 alternatives screening.

Because it is possible to have varying facility types in the study area, the ProPEL US 31 North study area may be divided into smaller pieces or focus areas as part of future alternatives development and screening activities. This approach will enable maximum flexibility to combine improvements in different ways to meet the transportation needs, support study area goals, as well as to reflect community-specific context regarding fit and function.

4.2.6. ROADWAY SHOULDER IMPROVEMENTS

Adequate shoulders provide space for emergency stops and emergency vehicle access, provide the driver with a sense of comfort in congested areas, accommodate oversized loads and vehicle breakdowns, and improve the capacity of the mainline travel lanes. This alternative would increase the width of shoulders in the corridor, where needed, to current design standards.

Table 9. Roadway Shoulder Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Widening the shoulder will not reduce conflict points.
	Incorporate Crash Reduction Measures	No	The shoulder widths meet current standards and further widening will is not an accepted crash reduction technique.
	Improve Multimodal Safety	No	The shoulder width meets current standards and further widening will not improve safety for non-motorized users or special-use vehicles.
	Prioritize and Consolidate Access Points	No	Widening the shoulder will not alter the number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Widening the shoulder maintains existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Widening the shoulder maintains existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Widening the shoulder maintains existing free-flow conditions
Practical		No	The Roadway Shoulder Improvements concept does not meet either Criteria 3 identified in Table 2 as it would require substantial costs to widen the shoulder of a roadway that meets current standards for the given functional classification of (Other Principal Arterial). Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Roadway Shoulder Improvements concept meets three study area needs; however, it is not practical due to the lack of documented safety or operational issues associated with the existing roadway shoulders. The Roadway Shoulder Improvements concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.2.7. BYPASS

A roadway bypass is a new road or highway constructed to route through-traffic around a specific area, helping to reduce traffic congestion and provide a more efficient route for longer distance trips. This alternative would construct a bypass route on new alignment with full control of access (i.e., connections provided with select public roads via interchanges).

Table 10. Bypass Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Construction of new roadway shifts the majority of the new traffic; however, the number of conflict points is not reduced along the existing corridor. Additional conflict points are created along the new roadway.
	Incorporate Crash Reduction Measures	No	Shifting the traffic to a new facility is not an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	Reducing traffic on the study corridor will improve safety for non-motorized users and special-use vehicles. A bypass will include grade-separated crossings that improve safety for such vehicles.
	Prioritize and Consolidate Access Points	Yes	The bypass concept, by definition, will have full access control, and, thereby, will consolidate access on the new roadway.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	The access across the existing roadway will be maintained in this concept, however, crossings may be limited on the new roadway. Further study would be needed to determine the impacts of the concept to mobility within the study area.
	Maintain or Improve Access to/from US 31 along important routes	Neutral	The access to the new roadway will include only interchanges. The number and location of these interchanges will affect how this performance measure is met. Further study would be needed to determine the impacts of the concept to mobility within the study area.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Construction of a bypass will provide a free-flow facility through the study area.
Practical		No	The Bypass concept would not meet Criteria 1, 3 or 4 identified in Table 2 as it would require substantial costs to create a bypass roadway and the existing roadway does not currently traverse an urbanized area to bypass. The bypass would likely result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Bypass concept meets five study area needs; however, it is not practical based on its extraordinarily high cost of construction, the expected environmental impacts, and because it is not appropriate in scope and scale. The Bypass concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.2.8. CONTINUOUS ROADWAY LIGHTING

Continuous Roadway Lighting would provide consistent lighting conditions along the entire study corridor. Lighting the entire corridor would generally give drivers more time to react to obstructions, such as deer, in the roadway at night.

Table 11. Continuous Roadway Lighting Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The addition of continuous roadway lighting does not change the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	The addition of continuous roadway lighting is an accepted crash reduction measure.
	Improve Multimodal Safety	No	The addition of continuous roadway lighting does not provide a benefit to the targeted users.
	Prioritize and Consolidate Access Points	No	The addition of continuous roadway lighting does not change the number or character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition of continuous roadway lighting maintains existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition of continuous roadway lighting maintains existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition of continuous roadway lighting supports existing free-flow conditions.
Practical		No	The Continuous Roadway Lighting concept would not meet Criteria 3 or 4 identified in Table 2 as it would provide limited benefits that may result in severe environmental impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Continuous Roadway Lighting concept meets four study area needs; however, it is not practical because it is not appropriate in scope and scale and is likely to result in severe environmental and socioeconomic impacts. The Continuous Roadway Lighting concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.2.9. MEDIAN SAFETY IMPROVEMENTS

Median Safety Improvements would identify one or more areas on US 31 in the study corridor where medians would be added, widened, removed, or otherwise improved (e.g., adding barriers where justified). Closure of median openings are covered under the Access Management concept in Section 3.2.3.

Table 12. Median Safety Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of median safety improvements does not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	The implementation of median safety improvements includes several measures that are accepted crash reduction techniques.
	Improve Multimodal Safety	Yes	The implementation of median safety improvements can include widening the median that may provide refuges for non-motorized users and special-use vehicles crossing or accessing US 31.
	Prioritize and Consolidate Access Points	No	The implementation of median safety improvements will not change the number or character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The implementation of some median safety improvements can improve E-W mobility across US 31. Other improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The implementation of some median safety improvements can improve access to/from US 31. Other improvements will maintain existing access.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The implementation of median safety improvements will maintain existing free-flow conditions.
Practical		Yes	The Median Safety Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Median Safety Improvements concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Median Safety Improvements concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical. This concept supports the shared vision of INDOT and the Federal Highway Administration (FHWA's) for zero deaths on the transportation system.

4.2.10. SIGNAL TIMING UPDATES / COORDINATION

Signal timing is a collection of logic and criteria that directs movements for users at a signalized intersection. This alternative would improve traffic signal timing and coordination between signals, which can improve traffic flow and safety.

Table 13. Signal Timing Updates/ Coordination Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Neutral	No traffic signals exist for updates or coordination along the US 31 North corridor. Therefore, the Signal Timing Updates/Coordination concept is not considered appropriate in scope and scale given the identified transportation problems.
	Incorporate Crash Reduction Measures	Neutral	
	Improve Multimodal Safety	Neutral	
	Prioritize and Consolidate Access Points	Neutral	
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	
	Maintain or Improve Access to/from US 31 along important routes	Neutral	
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	
Practical		No	

Result:
The Signal Timing Updates / Coordination concept meets seven study area needs; however, it is not practical based it is not appropriate in scope and scale. The Signal Timing Updates / Coordination concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.3. OFF-CORRIDOR IMPROVEMENTS

4.3.1. ADJACENT INTERSECTION IMPROVEMENTS

Existing intersections near to US 31 may cause operational issues at US 31 intersections due to long queues, limited sight distance, limited stopping distance, and/or other issues. This alternative would reconfigure or reconstruct adjacent intersections farther away from the study corridor, which can positively influence operations and safety at intersections with US 31. These improvements may also require additional local access road modifications.

Table 14. Adjacent Intersection Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	There are improvements that may be able to reduce conflict points on the adjacent roadway, but will not reduce the number of conflict points along US 31.
	Incorporate Crash Reduction Measures	Yes	Improvements to adjacent intersections are anticipated to be incorporated to address queuing of vehicles between the adjacent intersections and US 31. Reducing queueing on US 31 is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	Improvements to adjacent intersections may include improvements that benefit non-motorized users and special-use vehicles.
	Prioritize and Consolidate Access Points	No	Improving adjacent intersections will not change the character or number of access points to US 31.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Improving adjacent intersections will maintain, and may improve, E-W mobility across the study corridor.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Improving adjacent intersections will maintain, and may improve, access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Improving adjacent intersections will maintain existing free-flow conditions.
Practical		Yes	The Adjacent Intersection Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Adjacent Intersection Improvements concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Adjacent Intersection Improvement concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.3.2. PARALLEL ROUTE IMPROVEMENTS

Existing roadways parallel to US 31 would be improved to provide better local travel options and reduce the demand on US 31. Such improvements may include, but may not be limited to, shoulder improvements, widening of existing travel lanes, intersection improvements, or realignment of existing local roads to provide a facility that is functional for users.

Table 15. Parallel Route Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Parallel route improvements may reduce the volume of traffic on US 31 but will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Parallel route improvements may include crash reduction measure on the parallel routes, but do not address US 31.
	Improve Multimodal Safety	Neutral	Parallel route improvements may improve access through the corridor for non-motorized users and special-use vehicles, however, improvements may also adversely impact these users by increasing crossing lengths or roadways or increasing traffic volumes on the parallel route. Further study is needed to define how the performance measure is met.
	Prioritize and Consolidate Access Points	No	Parallel route improvements will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	Parallel route improvements may improve E-W mobility, however, improvements may also adversely impact these users by increasing crossing lengths or roadways or increasing traffic volumes on the parallel route. Further study is needed to define how the performance measure is met.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Parallel route improvements will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Parallel route improvements will maintain existing free-flow conditions on US 31.
Practical		No	The Parallel Route Improvements concept does not meet Criteria 3 or 4 identified in Table 2. There are no parallel roadways to US 31 in the study area. The route most nearly parallel to US 31 within the study area is Old Route 31. Improvements to this route could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Parallel Route Improvements concept meets four study area needs; however it is not practical based on its expected environmental impacts, and because it is not appropriate in scope and scale. The Parallel Route Improvements concept will not be carried forward for further consideration since it does not meet the practicality criteria. This concept will be considered, as needed, during the alternatives development and screening process to mitigate impacts associated with another improvement concepts.

4.4. INTERSECTION IMPROVEMENTS

4.4.1. ADD OR LENGTHEN TURN LANES (LEFT OR RIGHT)

Left and/or right turn lanes would be added to existing intersections in the study corridor, as needed, to separate turning vehicles from through traffic. In locations where they currently exist, turn lanes would be evaluated to determine if adequate deceleration and storage lengths are provided.

Table 16. Add or Lengthen Turn Lanes (Left or Right) Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The addition or lengthening of turn lanes will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	The addition or lengthening of turn lanes is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	The addition or lengthening of turn lanes will provide opportunities for deceleration of special-use vehicles leaving US 31.
	Prioritize and Consolidate Access Points	No	The addition or lengthening of turn lanes will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition or lengthening of turn lanes will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition or lengthening of turn lanes will improve access from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition or lengthening of turn lanes will maintain existing free-flow conditions on US 31.
Practical		Yes	The Add or Lengthen Turn Lanes (Left or Right) concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Add or Lengthen Turn Lanes (Left or Right) concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Add or Lengthen Turn Lanes (Left or Right) concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.4.2. REALIGN SKEWED INTERSECTIONS

Skewed intersections occur when local roadways intersect US 31 at angles other than 90 degrees. At these locations, the angle of the intersection of the crossing road (skew) would be reduced and the intersection would be made more perpendicular to US 31. This alternative would involve reconstruction of a limited length of the approach roadway and may require acquisition of additional ROW.

Table 17. Realign Skewed Intersections Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Realignment of existing skewed intersections will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Realignment of existing skewed intersections is not an accepted crash reduction measure for the skew angles found along US 31.
	Improve Multimodal Safety	Yes	Realignment of existing skewed intersections may improve sight distance
	Prioritize and Consolidate Access Points	No	Realignment of existing skewed intersections will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Realignment of existing skewed intersections will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Realignment of existing skewed intersections may provide an improvement for access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Realignment of existing skewed intersections will maintain existing free-flow conditions on US 31.
Practical		Yes	The Realign Skewed Intersections concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Realign Skewed Intersections concept meets four study area needs and is practical as it meets the practicality criteria in Section 2. The Realign Skewed Intersections concept will be carried forward for further consideration as a Complementary Concept since it meets four study needs and is practical.

4.4.3. ADD/EXTEND ACCELERATION/DECELERATION LANES

Acceleration and deceleration lanes are components of highways and roads that allow motorists to enter and exit mainline travel lanes at or near the same speed of through traffic. An acceleration lane is an additional lane on a roadway, typically found at on-ramps or entrances to highways or freeways. Its purpose is to allow vehicles entering the main road to accelerate and match the speed of the traffic already on the road before merging. By having this separate lane, drivers can safely and smoothly merge into the flow of traffic minimizing disruptions or hazards to other vehicles. A deceleration lane is a designated lane that allows vehicles to pull out of the mainline lanes before slowing to exit the facility. This alternative would add or extend acceleration or deceleration lanes for vehicles entering or exiting US 31. Depending on the site specifics, this alternative may require acquisition of additional ROW.

Table 18. 3.4.3.5.4.3. Add / Extend Acceleration/Deceleration Lanes Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The addition or extension of acceleration / deceleration lanes at intersections will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	The addition of acceleration / deceleration lanes at intersections is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	The addition or extension of acceleration / deceleration lanes at intersections will provide opportunities for acceleration of special-use vehicles entering US 31.
	Prioritize and Consolidate Access Points	No	The addition or extension of acceleration / deceleration lanes at intersections will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition or extension of acceleration / deceleration lanes at intersections will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition or extension of acceleration / deceleration lanes at intersections may provide an improvement for access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition or extension of acceleration / deceleration lanes at intersections will maintain existing free-flow conditions on US 31.
Practical		Yes	The Add / Extend Acceleration/Deceleration Lanes concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Add / Extend Acceleration/Deceleration Lanes concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Add / Extend Acceleration/Deceleration Lanes concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.4.4. INTERSECTION SIGHT DISTANCE IMPROVEMENTS

Intersection sight distance refers to the distance needed for a driver approaching an intersection to have a clear and unobstructed view of any potential conflicting traffic. This ensures that drivers have enough time to react to unexpected situations. Intersection sight distance is influenced by factors such as the location and height of obstructions, road curvature, and the design of the intersection itself. This alternative could involve realignment the approach roadway or driveway to provide adequate sight distance along US 31.

Table 19. Intersection Sight Distance Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Intersection sight distance improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Intersection sight distance improvement is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	Intersection sight distance improvements will provide improved safety for special-use vehicles entering US 31.
	Prioritize and Consolidate Access Points	No	Intersection sight distance improvements will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Intersection sight distance improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Intersection sight distance improvements may provide an improvement in safety for access to US 31 in locations with issues identified in the Existing Transportation Conditions Report.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Intersection sight distance improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Intersection Sight Distance Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Intersection Sight Distance Improvements concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Intersection Sight Distance Improvements concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.4.5. TRAFFIC CONTROL VISIBILITY UPGRADES

Traffic control directs the movement of people and vehicles by using a mixture of devices such as signs, pavement markings, and signals. This alternative would upgrade the visibility of these devices by providing more conspicuous direction or warning to the user at all times, including during inclement weather or in unlit conditions.

Table 20. Traffic Control Visibility Upgrades Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Traffic control visibility upgrades will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Traffic control visibility upgrades is an accepted crash reduction measure, as applied only to traffic signals. No signals exist along the US 31 in the study area, so there is no applicable crash reduction measure.
	Improve Multimodal Safety	No	Traffic control visibility upgrades will not improve safety for non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Traffic control visibility upgrades will not alter the character or number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Traffic control visibility upgrades will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Traffic control visibility upgrades will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Traffic control visibility upgrades will maintain existing free-flow conditions on US 31.
Practical		Yes	The Traffic Control Visibility Upgrades concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Traffic Control Visibility Upgrades concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Traffic Control Visibility Upgrades concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.4.6. CROSS ROAD OVERPASSES / UNDERPASS

This alternative would convert an existing at-grade intersection to a crossroad overpass or underpass, which would separate the local crossroad from US 31 via a bridge. It would remove the existing at-grade intersection with US 31 and provide unimpeded access across US 31 with no connection between the two roadways.

Table 21. Cross Road Overpass / Underpass Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	The addition of cross road overpasses/underpasses will reduce conflict points along US 31.
	Incorporate Crash Reduction Measures	Yes	The addition of cross road overpasses/underpasses is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	The addition of cross road overpasses/underpasses will improve safety for non-motorized and special-use vehicles by providing access across US 31 without interacting with the US 31 traffic stream.
	Prioritize and Consolidate Access Points	Yes	The addition of cross road overpasses/underpasses will consolidate access points to/from US 31 to locations without overpasses/underpasses.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition of cross road overpasses/underpasses will improve E-W mobility by providing access across US 31 without interactions with the US 31 traffic stream.
	Maintain or Improve Access to/from US 31 along important routes	No	The addition of cross road overpasses/underpasses will reduce access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition of cross road overpasses/underpasses will maintain existing free-flow conditions on US 31.
Practical		Yes	The Cross Road Overpass / Underpass concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Cross Road Overpasses / Underpass concept meets six study area needs and is practical as it meets the practicality criteria in Section 2. The Cross Road Overpasses / Underpass concept will be carried forward for further consideration as a Primary Concept since it meets six study needs and is practical.

4.4.7. CONVERT TO INTERCHANGE

Improvements to an at-grade intersection may not be practical due to the volume of traffic the intersection must accommodate in existing or projected conditions. Interchanges may be used in these situations to physically separate traffic flows, reduce delay, and improve safety by reducing conflict points. Examples of interchange types that are applicable to at-grade intersections in the study corridor may include, but may not be limited to, the following, and variations thereof:

- A Diamond Interchange;
- A Cloverleaf Interchange;
- A Single Point Urban Interchange (SPUI); and
- A Diverging Diamond Interchange (DDI).

In some cases, additional interchange configurations are possible to accomplish the primary objective of access, while also avoiding and/or minimizing impacts to community and environmental resources.

Table 22. Convert to Interchange Alternative Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	Conversion of existing intersections to interchanges will reduce conflict points.
	Incorporate Crash Reduction Measures	Yes	Conversion of existing intersections to interchanges is an accepted crash reduction measure.
	Improve Multimodal Safety	Yes	Conversion of existing intersections to interchanges will improve safety for non-motorized and special-use vehicles by providing access across US 31 without interacting with the US 31 mainline traffic.
	Prioritize and Consolidate Access Points	Yes	Conversion of existing intersections to interchanges can be expected to prioritize access points and may consolidate access points to/from US 31 by eliminating driveways within the ramp lengths.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	Conversion of existing intersections to interchanges could improve E-W mobility by reducing delay for US 31 crossing maneuvers. Conversion of intersections to interchange may also cause closure of adjacent intersections reducing access to US 31. Further study is needed.
	Maintain or Improve Access to/from US 31 along important routes	Neutral	Conversion of existing intersections to interchanges could improve access to/from by reducing delay for US 31 crossing and turning maneuvers. Conversion of intersections to interchange may also cause closure of adjacent intersections reducing access to US 31. Further study is needed.

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Conversion of existing intersections to interchanges will maintain existing free-flow conditions on US 31.
Practical		Yes	The Convert to Interchange concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Covert to Interchange concept meets seven study area needs and is practical as it meets the practicality criteria in Section 2. The Convert to Interchange concept will be carried forward for further consideration as a Primary Concept since it meets seven study needs and is practical.

4.4.8. SIGNALIZED IMPROVEMENTS

A signalized improvement would include improvements to an existing signalized intersection. Varying configurations of traffic signals are possible under this alternative. Potential configurations may include, but may not be limited to, the following:

- Continuous Flow Intersection;
- Boulevard Left-turn Intersection;
- Restricted Crossing U-Turn Intersections (RCUT);
- Green Tee Intersection; and
- Signal Modernization.

Table 23. Signalized Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Neutral	No traffic signals exist for improvements along the US 31 North corridor. Therefore, the Signalized Improvements concept is not considered appropriate in scope and scale given the identified transportation problems.
	Incorporate Crash Reduction Measures	Neutral	
	Improve Multimodal Safety	Neutral	
	Prioritize and Consolidate Access Points	Neutral	
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	
	Maintain or Improve Access to/from US 31 along important routes	Neutral	
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	
Practical		No	

Result:
The Signalized Improvements concept meets seven study area needs; however, it is not practical based on its scope and scale. The Signalized Improvements concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.4.9. UNSIGNALIZED IMPROVEMENTS

Existing unsignalized intersections would be reconfigured to improve safety and efficiency. Unsignalized intersection improvement configurations may include, but may not be limited to, the following:

- Reduced Conflict Intersections (RCI)), which would include "J-Turns" as a part of the family of RCI options;
- Roundabout (on US 31 mainline);
- Widening the Median; and
- Convert to Right-in/Right-out Intersection.

Table 24. Unsignalized Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Yes	Unsignalized improvements may reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Unsignalized improvements include treatments that are measures listed as crash reduction measures.
	Improve Multimodal Safety	Yes	Unsignalized improvements may provide opportunities for improvements that benefit non-motorized users and special-use vehicles.
	Prioritize and Consolidate Access Points	No	Unsignalized improvements will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Unsignalized improvements will maintain or improve existing E-W mobility at Important crossing locations.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Unsignalized improvements will maintain or improve access to/from US 31 along important routes.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Unsignalized improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Unsignalized Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Unsignalized Improvements concept meets six study area needs and is practical as it meets the practicality criteria in Section 2. The Unsignalized Improvements concept will be carried forward for further consideration as a Primary Concept since it meets six study needs and is practical.

4.5. INTERCHANGE IMPROVEMENTS

4.5.1. ADD CAPACITY TO MOVEMENT(S)

This alternative would add capacity to an existing interchange by adding lanes, improving geometry, lengthening merge/diverge areas, or travel lane/shoulder widening. Capacity improvements may also require bridge widening or other associated improvements. There is one interchange in the US 31 North Study Area.

Table 25. Add Capacity to Movement(s) Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The addition of capacity to interchange movements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	The addition of capacity to interchange movements includes treatments that are measures listed as crash reduction measures.
	Improve Multimodal Safety	Neutral	The addition of capacity to interchange movements may improve safety for special-use vehicles and may reduce safety by increasing crossing distances. Further evaluation is needed.
	Prioritize and Consolidate Access Points	No	The addition of capacity to interchange movements does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The addition of capacity to interchange movements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The addition of capacity to interchange movements may improve access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The addition of capacity to interchange movements will maintain existing free-flow conditions on US 31.
Practical		No	The Add Capacity to Movements concept would not meet Criteria 3 identified in Table 2 as it would require substantial costs to add capacity to intersections that does not require additional capacity in the existing and/or projected future conditions (2045). If the added lanes were added to the outside of the existing ramps, it could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Add Capacity to Movement(s) concept meets four study area needs; however, it is not practical based on its scope and scale. The Add Capacity to Movement(s) concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.5.2. COLLECTOR-DISTRIBUTOR SYSTEM

Collector-Distributor (C-D) roads consist of local access lanes, usually parallel to, but separated from the existing corridor, where weaving movements between vehicles entering and exiting the mainline lanes occur. This alternative would eliminate weaving movements from the mainline, allowing through traffic to flow more freely.

Table 26. Collector-Distributor System Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Neutral	A single interchange exists along the US 31 North corridor, and there is no practical connection for a Collector-Distributor System. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.
	Incorporate Crash Reduction Measures	Neutral	
	Improve Multimodal Safety	Neutral	
	Prioritize and Consolidate Access Points	Neutral	
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	
	Maintain or Improve Access to/from US 31 along important routes	Neutral	
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	
Practical		No	

Result:
The Collector-Distributor System concept meets seven study area needs; however, it is not practical based on its scope and scale. The Collector-Distributor System concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.5.3. RAMP METERING

Ramp metering is a means of controlling a freeway entrance ramp to manage the volume of traffic entering the mainline lanes. Ramp metering is used to reduce or prevent bottlenecks that occur where large volumes of traffic enter the roadway.

Table 27. Ramp Metering Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Ramp metering will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Ramp metering is not an accepted crash reduction measure.
	Improve Multimodal Safety	Neutral	Ramp metering may provide a benefit to special-use vehicles accessing US 31, however additional study is necessary to confirm if an improvement would be realized.
	Prioritize and Consolidate Access Points	No	Ramp metering does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Ramp metering will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Ramp metering may improve access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Ramp metering will maintain existing free-flow conditions on US 31.
Practical		No	The Ramp Metering concept would not meet Criteria 3 as identified in Table 2 as it would require substantial costs to add capacity to a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Ramp Metering concept meets four study area needs; however, it is not practical based on its scope and scale. The Ramp Metering concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.5.4. RAMP TERMINAL INTERSECTION IMPROVEMENTS

A ramp terminal intersection connects a free-flow roadway interchange ramp with a crossroad at an intersection with the local road. This alternative would improve ramp terminals, as needed, at both signalized and unsignalized ramp terminal intersections.

Table 28. Ramp Terminal Intersection Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Ramp terminal intersection improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Ramp terminal intersection improvements includes treatments that are measures listed as accepted crash reduction measures.
	Improve Multimodal Safety	Yes	Ramp terminal intersection improvements may provide a benefit to non-motorized users at the intersections and special-use vehicles accessing US 31.
	Prioritize and Consolidate Access Points	No	Ramp terminal intersection improvements do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Ramp terminal intersection improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Ramp terminal intersection improvements may improve access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Ramp terminal intersection improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Ramp Terminal Intersection Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Ramp Terminal Intersection Improvements concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Ramp Terminal Intersection Improvements concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.6. SPOT IMPROVEMENTS

4.6.1. PAVEMENT MARKING IMPROVEMENT

This alternative would include reapplying and/or reconfiguring roadway pavement markings to be more prominent, more frequent, more reflective, brighter, and more informative/intuitive to help guide traffic.

Table 29. Pavement Marking Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Pavement marking improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Pavement marking improvements is not an accepted crash reduction measure.
	Improve Multimodal Safety	No	Pavement marking improvements are unlikely to provide a benefit to non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Pavement marking improvements do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Pavement marking improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Pavement marking improvements maintain access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Pavement marking improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Pavement Marking Improvement concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Pavement Marking Improvement concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Pavement Marking Improvement concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.6.2. ROADWAY SIGNAGE IMPROVEMENTS

This alternative would upgrade roadway signage, as needed, to improve a motorist's ability to navigate the area. Enhanced signage could include larger, more informative, better/internally illuminated signs accompanied by flashing lights to gain the attention of drivers.

Table 30. Roadway Signage Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Roadway signage improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Roadway signage improvements is not an accepted crash reduction measure.
	Improve Multimodal Safety	No	Roadway signage improvements are unlikely to provide a benefit to non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Roadway signage improvements do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Roadway signage improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Roadway signage improvements maintain access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Roadway signage improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Roadway Signage Improvements concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Roadway Signage Improvements concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Roadway Signage Improvements concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.6.3. WILDLIFE CROSSING

Wildlife, especially deer, are present throughout the study corridor and sometimes interact with users causing crashes. Wildlife crossings can be managed by providing a dedicated location where wildlife can cross the roadway without interacting with motorists. This alternative would utilize grade separated crossings for wildlife or other technologies to limit risk associated with wildlife attempting to cross US 31.

Table 31. Wildlife Crossing Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Adding wildlife crossings will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Adding wildlife crossings is not an accepted crash reduction measure.
	Improve Multimodal Safety	No	Adding wildlife crossings is unlikely to provide a benefit to non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Adding wildlife crossings does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Adding wildlife crossings will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Adding wildlife crossings will maintain access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Adding wildlife crossings will maintain existing free-flow conditions on US 31.
Practical		Yes	The Wildlife Crossing concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Wildlife Crossing concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Wildlife Crossing concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.6.4. RAILROAD CROSSING IMPROVEMENT

Railroad crossing improvements would modify existing at-grade railroad crossings of US 31 by improving sight distances, installing new active warning signals, or grade separating the crossing with an overpass/underpass bridge. This concept may also include adding an auxiliary lane outside the through traffic lanes for vehicles required to stop at railroad crossings when trains are not present, such as buses and semi-trucks. Such auxiliary lanes would also require adequate deceleration and acceleration tapers, as well as marking and signing tailored to the location. There are no existing at-grade railroad crossings of US 31 in the study corridor.

Table 32. Railroad Crossing Improvement Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	Neutral	No railroad crossings exist within the US 31 North study area. Therefore, the Railroad Crossing Improvement concept is not considered appropriate in scope and scale given the identified transportation problems.
	Incorporate Crash Reduction Measures	Neutral	
	Improve Multimodal Safety	Neutral	
	Prioritize and Consolidate Access Points	Neutral	
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	
	Maintain or Improve Access to/from US 31 along important routes	Neutral	
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	
Practical		No	

Result:
The Railroad Crossing Improvement concept meets seven study area needs; however, it is not practical based on its scope and scale. The Railroad Crossing Improvement concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.6.5. GEOMETRIC IMPROVEMENTS

This alternative would improve roadway geometry, as needed, to meet current design standards and/or address documented issues. Such improvements may include, but may not be limited to, the following:

- Horizontal or vertical curve improvements;
- Superelevation rate improvements;
- Superelevation rate transition improvements; and
- Sight distance improvements.

Table 33. Geometric Improvements Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Geometric improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Geometric improvements include treatments that are listed as crash reduction measures.
	Improve Multimodal Safety	No	Geometric improvements will not improve multimodal safety along US 31 as no deficiencies exist to be corrected.
	Prioritize and Consolidate Access Points	No	Geometric improvements do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Geometric improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Neutral	Geometric improvements will maintain access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Geometric improvements will maintain existing free-flow conditions on US 31.
Practical		No	The Geometric Improvements concept would not meet Criteria 3 identified in Table 2 as it would require substantial costs and no geometric deficiencies exist along the existing roadway. Modifications to the roadway's alignment or profile could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Geometric Improvements concept meets four study area needs; however, it is not practical based on its scope and scale. The Geometric Improvements concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.6.6. ROADWAY LIGHTING

This alternative would provide lighting at spot locations such as:

- Intersections (e.g., Stop controlled intersections, however none currently exist along US 31 North);
- Interchanges;
- Horizontal curves; and
- Locations with frequent wildlife crossings.

Table 34. Roadway Lighting Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Roadway lighting will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Roadway lighting is a recognized crash reduction measure.
	Improve Multimodal Safety	No	Roadway lighting will not improve multimodal safety along US 31.
	Prioritize and Consolidate Access Points	No	Roadway lighting will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Roadway lighting will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Roadway lighting may improve access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Roadway lighting will maintain existing free-flow conditions on US 31.
Practical		Yes	The Roadway Lighting concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Roadway Lighting concept meets four study area needs and is practical as it meets the practicality criteria in Section 2. The Roadway Lighting concept will be carried forward for further consideration as a Complementary Concept since it meets four study needs and is practical.

4.6.7. CRASH INVESTIGATION SITES

This alternative would implement crash investigation sites, which are designated zones where motorists involved in a crash can pull off the roadway to safely investigate a minor crash. These zones are typically placed along high-speed facilities in locations where crashes frequently occur.

Table 35. Crash Investigation Sites Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Adding crash investigation sites along US 31 will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Adding crash investigation sites along US 31 is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Adding crash investigation sites along US 31 will not improve multimodal safety along US 31.
	Prioritize and Consolidate Access Points	No	Adding crash investigation sites along US 31 does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Adding crash investigation sites along US 31 will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	No	Adding crash investigation sites along US 31 will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Adding crash investigation sites along US 31 will maintain existing free-flow conditions on US 31.
Practical		No	The Crash Investigation Sites concept would not meet Criteria 3 identified in Table 2 as is not appropriate given the crash rate and available capacity of the roadway. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Crash Investigation Sites concept meets two study area needs; however, it is not practical based on its scope and scale. The Crash Investigation Sites concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.6.8. ROADWAY DRAINAGE IMPROVEMENT

Roadway drainage infrastructure removes storm water runoff from roadways by directing the runoff into designated systems for discharge, storage, or infiltration. This alternative would improve roadway drainage infrastructure, as needed, to address documented issues such as flooding, ponding water or hydroplaning vehicles.

Table 36. Roadway Drainage Improvement Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Roadway drainage improvements will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Roadway drainage improvements is a recognized crash reduction measure.
	Improve Multimodal Safety	No	Roadway drainage improvements will not specifically improve multimodal safety along US 31.
	Prioritize and Consolidate Access Points	No	Roadway drainage improvements does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Roadway drainage improvements will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Roadway drainage improvements will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Roadway drainage improvements will maintain existing free-flow conditions on US 31.
Practical		Yes	The Roadway Drainage Improvement concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Roadway Drainage Improvement concept meets four study area needs and is practical as it meets the practicality criteria in Section 2. The Roadway Drainage Improvement concept will be carried forward for further consideration as a Complementary Concept since it meets four study needs and is practical.

4.6.9. CLIMBING LANES

Climbing lanes are additional lanes provided for trucks and other slow-moving vehicles to get up to the posted speed in specific areas with steep uphill grades. This alternative would add climbing lanes, as needed, in areas with steep uphill grades. Adding climbing lanes may require acquisition of additional ROW.

Table 37. Climbing Lanes (Acceleration) Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Adding climbing lanes to US 31 will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Adding climbing lanes to US 31 is a recognized crash reduction measure.
	Improve Multimodal Safety	Yes	Adding climbing lanes to US 31 improve multimodal safety along US 31, particularly for special-use vehicles.
	Prioritize and Consolidate Access Points	No	Adding climbing lanes to US 31 does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Adding climbing lanes to US 31 will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Adding climbing lanes to US 31 will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Adding climbing lanes to US 31 will maintain existing free-flow conditions on US 31.
Practical		No	The Climbing Lanes concept would not meet Criteria 3 identified in Table 2 as existing grades meet current criteria for slope and length. The addition of lanes to the outside of the roadway could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Climbing Lanes concept meets five study area needs; however, it is not practical based on its scope and scale. The Climbing Lanes concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.6.10. GATEWAY/CORRIDOR TREATMENTS

Aesthetic treatments would be incorporated for key destinations along the study corridor. For the US 31 North study corridor, potential key destinations would include Mexico and Rochester or other points of interest in the study corridor. This alternative would intend to focus on a specific access point for these destinations.

Table 38. Gateway/Corridor Treatments Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Adding gateway/corridor treatments to US 31 will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Adding gateway/corridor treatments to US 31 is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Adding gateway/corridor treatments to US 31 is unlikely to improve multimodal safety.
	Prioritize and Consolidate Access Points	No	Adding gateway/corridor treatments to US 31 does not alter the number of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Adding gateway/corridor treatments to US 31 will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Adding gateway/corridor treatments to US 31 will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Adding gateway/corridor treatments to US 31 will maintain existing free-flow conditions on US 31.
Practical		Yes	The Gateway/Corridor Treatments concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Gateway/Corridor Treatments concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Gateway/Corridor Treatments concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.7. TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (TSMO)

4.7.1. TRAVELER INFORMATION SYSTEMS

Traveler information systems consist of tools to collect and distribute traffic conditions, work zone information, road and weather conditions to motorists via smart phones, in addition to radio, message boards, websites or other devices.

Table 39. Traveler Information Systems Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Traveler information systems will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Traveler information systems are not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Traveler information systems are unlikely to improve multimodal safety.
	Prioritize and Consolidate Access Points	No	Traveler information systems do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Traveler information systems will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Traveler information systems will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Traveler information systems will maintain existing free-flow conditions on US 31.
Practical		No	The Traveler Information Systems concept would not meet Criteria 3 identified in Table 2 as it would require substantial costs to add capacity to a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Traveler Information Systems concept meets three study area needs; however, it is not practical based on its high cost of construction and lack of documented benefit. The Traveler Information Systems concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.7.2. SPEED MANAGEMENT

Reducing vehicle speeds can improve safety in areas where substantial volumes of traffic are entering, exiting, or crossing the study corridor. Speed management techniques include engineering countermeasures using pavement markings, signing, geometric changes, as well as permanent or temporary reductions to posted speed limits. Variable speed limits can be used to temporarily reduce speeds when demand is high and/or when congestion is present. The active speed limit is displayed to motorists using dynamic messaging signs and/or dynamic speed limit signs. Successful speed management techniques would be expected to reduce speed differentials, reduce rear end crashes, reduce red light running (in signalized areas), and maintain the smooth flow of traffic.

Table 40. Speed Management Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Speed management techniques will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Speed management techniques include treatments that are recognized crash reduction measures.
	Improve Multimodal Safety	No	Speed management techniques are unlikely to improve multimodal safety.
	Prioritize and Consolidate Access Points	No	Speed management techniques do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Speed management techniques will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Speed management techniques will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	Speed management techniques will reduce the speed of the traffic and create delay for through movements on US 31.
Practical		Yes	The Speed Management concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Speed Management concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Speed Management concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.7.3. WARNING SYSTEMS

Intersection warning systems can alert motorists to a stop condition that lies ahead at a signalized intersection. Warning systems can also be used at unsignalized intersections to alert motorists on the mainline of a vehicle that is present at a downstream crossroad or alert the motorist on the crossroad of approaching mainline vehicles.

Back of queue crashes are often severe and can be avoided by utilizing a queue warning system that alerts motorists when queues lie ahead. These alerts are intended to slow motorists, decrease speed differential, and reduce the frequency and severity of back of queue crashes. Weather warning systems alert motorists of severe weather conditions affecting driving conditions.

Table 41. Warning Systems Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Warning systems will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Warning systems include treatments that are recognized crash reduction measures.
	Improve Multimodal Safety	Yes	Warning systems may improve safety for non-motorized and special-use vehicles crossing US 31.
	Prioritize and Consolidate Access Points	No	Warning systems do not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Warning systems will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Warning systems will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Warning systems will maintain existing free-flow conditions on US 31.
Practical		Yes	The Warning Systems concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Warning Systems concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Warning Systems concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.7.4. MANAGED LANES

Managed lanes are travel lanes that are provided for exclusive use by high occupancy vehicles, trucks, tolled vehicles, or some combination of these vehicles. Managed lanes may also include options such as reversible lanes to address unbalanced traffic flows or shoulder running which can intermittently allow the use of existing shoulders as travel lanes. Managed lanes provide a means to reduce congestion and commonly provide a higher level of service to users than the general-purpose lanes. Managed lanes may require added travel lanes along the study corridor, which may require acquisition of additional ROW and/or changes in access to/from the study corridor.

Table 42. Managed Lanes Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of managed lanes will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	The implementation of managed lanes is not a recognized crash reduction measure.
	Improve Multimodal Safety	Yes	The implementation of managed lanes may provide safety and operational benefits to special-use vehicles.
	Prioritize and Consolidate Access Points	No	The implementation of managed lanes does not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	No	The implementation of managed lanes will reduce existing E-W mobility by giving priority to target vehicles types and reducing opportunities for crossing traffic.
	Maintain or Improve Access to/from US 31 along important routes	No	The implementation of managed lanes may reduce existing access to/from US 31 in favor providing access to targeted vehicle types.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The implementation of managed lanes will maintain existing free-flow conditions on US 31.
Practical		No	The Managed Lanes concept would not meet Criteria 1, 3 or 4 identified in Table 2 as it would require substantial costs to add capacity to a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). To function properly, additional lanes would be required. If the added travel lanes were added to the outside, it could also result in severe environmental and socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Managed Lanes concept meets two study area needs; however, it is not practical based on its extraordinarily high cost of construction, the expected environmental impacts, and because it is not appropriate in scope and scale. The Managed Lanes concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.7.5. FREIGHT PRIORITY SYSTEM

A freight priority system is a traffic signal modification that extends the traffic signal phase length to provide additional green time for approaching trucks. This would allow trucks to make it through an intersection when they would otherwise be forced to stop.

Table 43. Freight Priority System Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of freight priority system requires traffic signals to function. No signalized intersections exist along US 31 North. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.
	Incorporate Crash Reduction Measures	No	
	Improve Multimodal Safety	Neutral	
	Prioritize and Consolidate Access Points	No	
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	
	Maintain or Improve Access to/from US 31 along important routes	Neutral	
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	
Practical		No	

Result:
The Freight Priority System concept meets four study area needs; however, it is not practical based on its scope and scale. The Freight Priority System concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8. POLICY / IMPROVEMENTS REQUIRING POLICY CHANGES

4.8.1. TOLLING

This alternative would involve charging a toll (fee) when a driver uses a road or a bridge. Although tolling encourages some drivers to seek an alternative route, the main purpose of tolling is to generate revenue. Funds gathered via tolling can be used to fund ongoing roadway maintenance, additional future roadway improvements, or manage debt for previous improvements.

Table 44. Tolling Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of tolling will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	The implementation of tolling is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	The implementation of tolling is unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	Yes	The implementation of tolling will reduce the number of access points due to the need to limit tolling locations for access to US 31.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	No	The implementation of tolling will reduce existing E-W mobility by requiring tolls to use or cross the roadway.
	Maintain or Improve Access to/from US 31 along important routes	No	The implementation of tolling will reduce existing access to/from US 31 due to the need to limit tolling locations for access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The implementation of tolling will maintain existing free-flow conditions on US 31.
Practical		No	The Tolling concept would not be practical unless implemented as a part of a regional or statewide transportation funding program. Such a program does not currently exist.

Result:
The Tolling concept meets two study area needs; however, it is not practical in the absence of a regional or statewide transportation funding program. The Tolling concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.2. CONGESTION PRICING

Similar to tolling, congestion pricing imposes a toll (fee) to use a facility; however, the price of the toll may vary depending on location, traffic congestion, time of day, or other factors.

Table 45. Congestion Pricing Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of congestion pricing will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	The implementation of congestion pricing is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	The implementation congestion pricing is unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	Yes	The implementation of congestion pricing will reduce the number of access points due to the need to limit tolling locations for access to US 31.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	No	The implementation of congestion pricing will reduce existing E-W mobility by requiring tolls to use or cross the roadway.
	Maintain or Improve Access to/from US 31 along important routes	No	The implementation of congestion pricing will reduce existing access to/from US 31 due to the need to limit tolling locations for access to US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The implementation of congestion pricing will maintain existing free-flow conditions on US 31.
Practical		No	The Congestion Pricing concept would not meet Criteria 3 or 4 identified in Table 2 as it would require substantial costs to manage the capacity of a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). Additionally, it could result in severe socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Congestion Pricing concept meets two study area needs; however, it is not practical based on its expected environmental impacts, and because it is not appropriate in scope and scale. The Congestion Pricing concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.3. CAV DEPLOYMENT

Connected and Autonomous Vehicles (CAV) is an emerging technology that can replace the driver for some or all of the driving tasks. Technological advancements and increasing CAV penetration into automobiles and the transportation infrastructure has the potential to improve safety and efficiency of the roadways. This alternative would include roadway modifications and technology installations to help accommodate increased CAV deployment along US 31 within the study corridor.

Table 46. CAV Deployment Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	The implementation of CAV technology will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	The implementation of CAV technology is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	The implementation CAV technology is unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	The implementation of CAV technology will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	The implementation of CAV technology will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	The implementation of CAV technology will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	The implementation of CAV technology will maintain existing free-flow conditions on US 31.
Practical		No	The CAV Deployment concept would not meet Criteria 1, 2 or 3 identified in Table 2 as it would require development and deployment of technologies that are not widely available to users of the roadway at the level of supporting the concept's function. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The CAV Deployment concept meets three study area needs; however, it is not practical based on its extraordinarily high cost of construction, the lack of available technology and its scope and scale. The CAV Deployment concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.4. ENFORCEMENT

Speed enforcement can provide an effective means of reducing speed differentials in the study corridor. This can lead to fewer crashes and fewer instances of red light running. Red-light running enforcement frequently uses monitoring systems to detect and issue violations to red light runners. Red light running on a high-speed arterial like US 31 frequently leads to severe crashes with fatalities and incapacitating injuries. Automated forms of speed and red-light running enforcement are available for use but require approval by the Indiana legislature.

Table 47. Enforcement (Speed, Red Light Running) Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Additional enforcement will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Additional enforcement is not a recognized crash reduction measure.
	Improve Multimodal Safety	Neutral	Additional enforcement may increase safety benefits to non-motorized users nor special-use vehicles by limiting speed to posted limits. Higher speeds where enforcement is needed is generally not where non-motorized users are present, additional study need to determine if the need is met.
	Prioritize and Consolidate Access Points	No	Additional enforcement will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Additional enforcement will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Additional enforcement will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Additional enforcement will maintain existing free-flow conditions on US 31.
Practical		Neutral	Implementation of enforcement is outside of INDOT's control and would require actions on the part of others. Therefore, practicality cannot be fully assessed.

X

Result:
The Enforcement concept meets four study area needs; however, implementation is outside the control of INDOT and would require actions on the part of others. Therefore, practicality cannot be fully assessed. For these reasons, Enforcement will not be carried forward for further consideration. INDOT will continue to coordinate with appropriate agencies/entities to share information, including public input received during the study. Improvements considered as part of this study will not preclude the implementation and/or operation of Enforcement by others within the study area.

4.8.5. TRAVEL DEMAND MANAGEMENT

This alternative includes adjusting working hours, telecommuting (i.e., working from home), ridesharing, and other commute mode adjustments to reduce the traffic demand along the study corridor. These alternatives are largely dependent upon whether or not employers allow for non-traditional work hours and/or the job responsibilities are conducive to telecommuting.

Table 48. Travel Demand Management Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Travel demand management techniques will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Travel demand management techniques are not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Travel demand management techniques are unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Travel demand management techniques will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Travel demand management techniques will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Travel demand management techniques will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Travel demand management techniques will maintain existing free-flow conditions on US 31.
Practical		No	The Travel Demand Management concept would not meet Criteria 3 or 4 identified in Table 2 as it requires substantial socioeconomic modifications to manage the capacity of a roadway that does not require additional capacity in the existing and/or projected future conditions (2045). Additionally, it could include severe socioeconomic impacts. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Travel Demand Management concept meets three study area needs; however, it is not practical based on its expected environmental impacts, and because it is not appropriate in scope and scale. The Travel Demand Management concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.6. ROADSIDE ASSISTANCE SERVICES

Roadside assistance, such as the Hoosier Helpers, is a service provided to help stranded motorists return to the roadway and reduce the likelihood of secondary crashes. These services are typically provided on interstates or other high volume, high-speed roadways.

Table 49. Roadside Assistance Services Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Roadside assistance services will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Roadside assistance services techniques are not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Roadside assistance services are unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Roadside assistance services will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Roadside assistance services will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Roadside assistance services techniques will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Roadside assistance services will maintain existing free-flow conditions on US 31.
Practical		No	The Roadside Assistance Services concept would not meet Criteria 3 identified in Table 2 as crash rates along the corridor are not elevated. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Roadside Assistance Services concept meets three study area needs; however, it is not practical based on its scope and scale. The Roadside Assistance Services concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.7. INCIDENT MANAGEMENT

Incident management combines a strategy of unified policies, procedures, operations, and communication systems for traffic incident responders to clear incidents in a timely manner in a safe and organized way.

Table 50. Incident Management Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Incident management systems will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Incident management systems are not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Incident management systems are unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Incident management systems will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Incident management systems will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Incident management systems will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Incident management systems will maintain existing free-flow conditions on US 31.
Practical		No	The Incident Management concept would not meet Criteria 3 identified in Table 2 as crash rates along the corridor are not elevated. Therefore, it is not considered appropriate in scope and scale given the identified transportation problems.

Result:
The Incident Management concept meets three study area needs; however it is not practical based on its scope and scale. The Incident Management concept will not be carried forward for further consideration since it does not meet the practicality criteria.

4.8.8. ALTERNATIVE FUEL/ELECTRIC VEHICLE CONSIDERATIONS

Additional messaging would be provided along the corridor to direct users to alternative fueling / charging locations.

Table 51. Alternative Fuel/Electric Vehicle Considerations Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Alternative fuel/electric vehicle considerations will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Alternative fuel/electric vehicle considerations are not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Alternative fuel/electric vehicle considerations are unlikely to provide safety benefits to non-motorized users nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Alternative fuel/electric vehicle considerations will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Alternative fuel/electric vehicle considerations will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Alternative fuel/electric vehicle considerations will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Alternative fuel/electric vehicle considerations will maintain existing free-flow conditions on US 31.
Practical		Yes	The Alternative Fuel/Electric Vehicle Considerations concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Alternative Fuel/Electric Vehicle Considerations concept meets three study area needs and is practical as it meets the practicality criteria in Section 2. The Alternative Fuel/Electric Vehicle Considerations concept will be carried forward for further consideration as a Design Element since it meets three study needs and is practical.

4.9. TRANSIT & NON-MOTORIZED IMPROVEMENTS

4.9.1. BIKE/PEDESTRIAN FACILITIES

This alternative would add bike/pedestrian facilities including bike lanes, sidewalks, and other features, as dedicated facilities or as enhancements to existing roadways to improve mobility by accommodating alternate modes of travel. In general, this alternative would provide the greatest benefit in urban areas with higher population densities and where non-motorized travel origin and destinations are more frequent.

Table 52. Bike/Pedestrian Facilities Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Addition of bike/pedestrian facilities will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	Yes	Addition of some bike/pedestrian facilities are recognized as crash reduction measures
	Improve Multimodal Safety	Yes	Addition of bike/pedestrian facilities will benefit non-motorized users.
	Prioritize and Consolidate Access Points	No	Addition of bike/pedestrian facilities will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Addition of bike/pedestrian facilities will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Addition of bike/pedestrian facilities will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Addition of bike/pedestrian facilities will maintain existing free-flow conditions on US 31.
Practical		Yes	The Bike/Pedestrian concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Bike/Pedestrian Facilities concept meets five study area needs and is practical as it meets the practicality criteria in Section 2. The Bike/Pedestrian Facilities concept will be carried forward for further consideration as a Complementary Concept since it meets five study needs and is practical.

4.9.2. BUS TRANSIT

Bus transit is a fixed route system that can improve mobility by providing an option to those that are not physically able or who choose not to drive. Bus transit can also improve mobility by providing a mode of transportation that is more economical than owning a car. Bus transit can target local trips within a community or commuter trips between communities. This alternative would provide new bus transit service along existing roadways.

Table 53. Bus Transit Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Creation of a bus transit system will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Creation of a bus transit system is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Creation of a bus transit system provides an alternative to non-motorized uses but does not benefit non-motorized users that chose to continue to use non-motorized means of transport.
	Prioritize and Consolidate Access Points	No	Creation of a bus transit system will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Creation of a bus transit system will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Creation of a bus transit system will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Creation of a bus transit system will maintain existing free-flow conditions on US 31.
Practical		Neutral	Implementation of bus transit is outside of INDOT's control and would require actions on the part of others. Therefore, practicality cannot be fully assessed.

Result:
The Bus Transit concept meets three study area needs; however, implementation is outside the control of INDOT and would require actions on the part of others. Therefore, practicality cannot be fully assessed. For these reasons, the Bus Transit concept will not be carried forward for further consideration. INDOT will continue to coordinate with the appropriate agencies/entities to share information, including public input received during the study. Improvements considered as part of this study will not preclude the implementation and/or operation of Bus Transit by others within the study area.

4.9.3. PASSENGER RAIL

Passenger rail service connects regions, city centers, and suburbs. This type of service generally operates on existing freight rail corridors.

Table 54. Passenger Rails Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Creation of a passenger rail system will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Creation of a passenger rail system is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Creation of a passenger rail system is unlikely to improve local safety for non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Creation of a passenger rail system will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	Creation of a passenger rail system may maintain existing E-W mobility and may decrease E-W mobility due to new crossings. Further study is required to determine if the needs are met.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Creation of a passenger rail system will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	Creation of a passenger rail system will maintain existing free-flow conditions on US 31.
Practical		Neutral	Implementation of the passenger rail concept is outside of INDOT's control and would require actions on the part of others. Therefore, practicality cannot be fully assessed.

X

Result:
The Passenger Rail concept meets three study area needs; however, implementation of the Passenger Rail concept is outside the control of INDOT and would require actions on the part of others. Therefore, practicality cannot be fully assessed. For these reasons, Passenger Rail will not be carried forward for further consideration. Improvements considered as part of this study will not preclude the implementation and/or operation of Passenger Rail by others within the study area.

4.9.4. FREIGHT RAIL

Freight rail refers to the transportation of goods and commodities by train. It involves the movement of large quantities of freight, such as raw materials, finished products, and various types of cargo, over long distances using specially designed rail infrastructure and rolling stock. This alternative may require acquisition of dedicated ROW, if no such rail infrastructure exists.

Table 55. Freight Rail Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Creation of a freight rail system will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Creation of a freight rail system is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Creation of a freight rail system is unlikely to improve local safety for non-motorized nor special-use vehicles.
	Prioritize and Consolidate Access Points	No	Creation of a freight rail system will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Neutral	Creation of a freight rail system may maintain existing E-W mobility and may decrease E-W mobility due to new crossings. Further study is required to determine if the needs are met.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Creation of a freight rail system will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Neutral	Creation of a freight rail system will maintain existing free-flow conditions on US 31.
Practical		Neutral	Implementation of the freight rail concept is outside of INDOT's control and would require actions on the part of others. Therefore, practicality cannot be fully assessed.

Result:
The Freight Rail concept meets three study area needs; however, implementation is outside the control of INDOT and would require actions on the part of others. Therefore, practicality cannot be fully assessed. For these reasons, Freight Rail will not be carried forward for further consideration. Improvements considered as part of this study will not preclude the implementation and/or operation of Freight Rail by others within the study area.

4.9.5. IMPROVED DEMAND BASED TRANSIT SERVICE

A transportation service that adapts to specific needs and requests of passengers. Unlike traditional fixed-route transit systems, which operate on predetermined routes and timetables, demand-based transit services aim to provide more flexibility and convenience to passengers by allowing them to request or schedule rides on an as-needed basis. The on-demand service can be accommodated through a combination of shuttle buses, taxi service and private ride share companies.

Table 56. Improved Demand Based Transit Service Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Improving existing demand-based services will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Improving existing demand-based services is not a recognized crash reduction measure.
	Improve Multimodal Safety	No	Improving existing demand-based services provides an alternative to non-motorized uses, but does not benefit non-motorized users that chose to continue to use non-motorized means of transport.
	Prioritize and Consolidate Access Points	No	Improving existing demand-based services will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Improving existing demand-based services will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Improving existing demand-based services will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Improving existing demand-based services will maintain existing free-flow conditions on US 31.
Practical		Neutral	Implementation of demand-based transit service is outside of INDOT's control and would require actions on the part of others. Therefore, practicality cannot be fully assessed.

Result:
The Improved Demand Based Transit Services concept meets three study area needs; however, implementation is outside the control of INDOT and would require actions on the part of others. Therefore, practicality cannot be fully assessed. For these reasons. Improved Demand Based Transit Services will not be carried forward for further consideration. INDOT will continue to coordinate with appropriate agencies/entities to share information, including public input received during the study. Improvements considered as part of this study will not preclude the implementation and/or operation of demand based transit services by others within the study area.

4.9.6. NON-MOTORIZED USER ACCOMMODATIONS

This alternative would add accommodations to provide for enhanced use of the study corridor by non-motorized users. These accommodations may include, but are not limited to, the following:

- Warning signage;
- Grade separated crossings;
- Dedicated median cuts for non-motorized users; and
- Shoulder infrastructure and warning signage for horse-drawn vehicles.

Table 57. Non-Motorized User Accommodations Screening Results

Need	Performance Measure (abbreviated description)	Needs Met?	Explanation
Safety for All Users	Reduce Conflict Points	No	Addition of non-motorized user accommodations will not reduce the number of conflict points.
	Incorporate Crash Reduction Measures	No	Addition of non-motorized user accommodations is not a recognized crash reduction measure.
	Improve Multimodal Safety	Yes	Addition of non-motorized user accommodations will benefit non-motorized users.
	Prioritize and Consolidate Access Points	No	Addition of non-motorized user accommodations will not alter the number nor character of access points.
Study Area Mobility	Maintain or Improve E-W Mobility at important crossing locations	Yes	Addition of non-motorized user accommodations will maintain existing E-W mobility.
	Maintain or Improve Access to/from US 31 along important routes	Yes	Addition of non-motorized user accommodations will maintain existing access to/from US 31.
Regional and Statewide Mobility	Support Continued Free-Flow Conditions	Yes	Addition of non-motorized user accommodations will maintain existing free-flow conditions on US 31.
Practical		Yes	The Non-Motorized User Accommodations concept would meet all criteria identified in Table 2 as it can be accomplished at a relatively low cost, is technologically and logistically feasible, and would not result in severe environmental and operational impacts. Therefore, it is appropriate in scope and scale for the identified transportation problems.

Result:
The Non-Motorized User Accommodations concept meets four study area needs and is practical as it meets the practicality criteria in Section 2. The Non-Motorized User Accommodations concept will be carried forward for further consideration as a Complementary Concept since it meets four study needs and is practical.

5. SUMMARY OF SCREENING RESULTS

Table 58 below summarizes the disposition of each concept from the initial screening. Table 58 summarizes the concepts to be carried in the screening.

Table 58. Universe of Alternatives (Level 1) Screening Matrix

Concept	Needs							Practicality	Carry Forward to Next Screening?	Categorization of Practical Concepts
	Reduce Conflict Points	Apply Crash Reduction Measures	Improve Multimodal Safety	Prioritize and Consolidate Access Points	Maintain or Improve E-W Mobility at important crossing locations	Maintain or improve access to/from US 31 along important routes	Support continued free-flow conditions			
No-Build	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Primary Concept
Corridor Improvements										
Added Travel Lanes	No	No	No	No	No	Yes	Yes	No	No	Not Carried Forward
Elevated Lanes	No	No	Yes	No	Yes	Yes	Yes	No	No	Not Carried Forward
Access Management	Yes	Yes	No	Yes	No	Neutral	Yes	Yes	Yes	Complementary Concept
Auxiliary Lanes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Not Carried Forward
Freeway (Free-Flow Facility with Full Control of Access)	Yes	Yes	Yes	Yes	Neutral	Neutral	Yes	Neutral	Yes	Primary Concept
Roadway Shoulder Improvements	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Bypass	No	No	Yes	Yes	Neutral	Neutral	Yes	No	No	Not Carried Forward
Continuous Roadway Lighting	No	Yes	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Median Safety Improvements	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Signal Timing Updates/ Coordination	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	No	No	Not Carried Forward
Off-Corridor Improvements										
Adjacent Intersection Improvements	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Parallel Route Improvements	No	No	Neutral	No	Neutral	Yes	Yes	No	No	Not Carried Forward
Intersection Improvements										
Add or Lengthen Turn Lanes (Left or Right)	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Realign Skewed Intersections	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Add / Extend Acceleration/Deceleration Lanes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Intersection Sight Distance Improvements	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Traffic Control Visibility Upgrades	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element

Concept	Needs							Practicality	Carry Forward to Next Screening?	Categorization of Practical Concepts
	Reduce Conflict Points	Apply Crash Reduction Measures	Improve Multimodal Safety	Prioritize and Consolidate Access Points	Maintain or Improve E-W Mobility at important crossing locations	Maintain or improve access to/from US 31 along important routes	Support continued free-flow conditions			
Cross Road Overpasses / Underpass	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Primary Concept
Convert to Interchange	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Primary Concept
Signalized Improvements	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	No	No	Not Carried Forward
Unsignalized Improvements	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Primary Concept
Interchange Improvements										
Add Capacity to Movement(s)	No	Yes	Neutral	No	Yes	Yes	Yes	No	No	Not Carried Forward
Collector-Distributor System	Neutral	Neutral	Neutral	Neutral	Yes	Neutral	Yes	No	No	Not Carried Forward
Ramp Metering	No	No	Neutral	No	Yes	Yes	Yes	No	No	Not Carried Forward
Ramp Terminal Intersection Improvements	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Spot Improvements										
Pavement Marking Improvement	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Roadway Signage Improvements	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Wildlife Crossing	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Railroad Crossing Improvement	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	No	No	Not Carried Forward
Geometric Improvements	No	Yes	Yes	No	Yes	Neutral	Yes	No	No	Not Carried Forward
Roadway Lighting	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Crash Investigation Sites	No	No	No	No	Yes	No	Yes	No	No	Not Carried Forward
Roadway Drainage Improvement	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Climbing Lanes	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Not Carried Forward
Gateway / Corridor Treatments	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Traffic Systems Operation And Maintenance (TSMO)										
Traveler Information Systems	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Speed Management	No	Yes	No	No	Yes	Yes	No	Yes	Yes	Design Element
Warning Systems	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Managed Lanes	No	No	Yes	No	No	No	Yes	No	No	Not Carried Forward
Freight Priority System	No	No	Neutral	No	Neutral	Neutral	Yes	No	No	Not Carried Forward

Concept	Needs							Practicality	Carry Forward to Next Screening?	Categorization of Practical Concepts
	Reduce Conflict Points	Apply Crash Reduction Measures	Improve Multimodal Safety	Prioritize and Consolidate Access Points	Maintain or Improve E-W Mobility at important crossing locations	Maintain or improve access to/from US 31 along important routes	Support continued free-flow conditions			
Policy Considerations										
Tolling	No	No	No	Yes	No	No	Yes	No	No	Not Carried Forward
Congestion Pricing	No	No	No	Yes	No	No	Yes	No	No	Not Carried Forward
CAV Deployment	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Enforcement	No	No	No	No	Yes	Yes	Yes	Neutral	No	Not Carried Forward
Travel Demand Management	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Roadside Assistance Services	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Incident Management	No	No	No	No	Yes	Yes	Yes	No	No	Not Carried Forward
Alternative Fuel / Electric Vehicle Considerations	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Design Element
Transit & Non-Motorized Improvements										
Bike / Pedestrian Facilities	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept
Bus Transit	No	No	No	No	Yes	Yes	Yes	Neutral	No	Not Carried Forward
Passenger Rail	No	No	No	No	Neutral	Yes	Neutral	Neutral	No	Not Carried Forward
Freight Rail	No	No	No	No	Neutral	Yes	Neutral	Neutral	No	Not Carried Forward
Improved Demand Based Transit Service	No	No	No	No	Yes	Yes	Yes	Neutral	Yes	Not Carried Forward
Non-Motorized User Accommodations	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Complementary Concept

Table 59. Summary of Concepts for Level 2 Screening

Primary Concepts (5 Concepts)	Complementary Concepts (13 Concepts)	Design Elements (7 Concepts)
No-Build	Access Management	Traffic Control Visibility Upgrades
Freeway (Free-Flow Facility with Full Control of Access)	Median Safety Improvements	Pavement Marking Improvement
Cross Road Overpasses / Underpass	Adjacent Intersection Improvements	Roadway Signage Improvements
Convert to Interchange	Add or Lengthen Turn Lanes (Left or Right)	Wildlife Crossing
Unsignalized Improvements	Realign Skewed Intersections	Gateway/Corridor Treatments
	Add / Extend Acceleration/Deceleration Lanes	Speed Management
	Intersection Sight Distance Improvements	Alternative Fuel / Electric Vehicle Considerations
	Ramp Terminal Intersection Improvements	
	Roadway Lighting	
	Roadway Drainage Improvement	
	Warning Systems	
	Bike / Pedestrian Facilities	
	Non-Motorized User Accommodations	

6. ALIGNMENT WITH GOALS

Seven goals for the ProPEL US 31 North study were identified, primarily through public and stakeholder input and are supported by local and regional planning documents (see Figure 4). Goals are elements that are desirable – but not required – objectives for the study area that are intended to help guide the development and screening of potential alternatives in future phases of the study. Goals will not be the sole basis for eliminating or carrying forward a concept and will be considered alongside other factors such as transportation performance, benefits, impacts, and costs. Each goal was evaluated for alignment with the concepts that will be further evaluated to identify which may be able to achieve study area goals.

6.1. ECONOMIC DEVELOPMENT

Economic Development goal is defined as providing the transportation infrastructure to support local economies and economic development goals. US 31 is a statewide corridor that connects local communities and businesses to regional and national markets. Within the study area, the ability of US 31 to support the local economy – including, more specifically, the operations of the farming industry and access to local businesses – were recurring themes expressed by public and study stakeholders. In general, the US 31 North ProPEL study purpose of improving safety, as well as efficiency and reliability of the US 31 study corridor are expected to benefit local and regional economic development. Therefore, improvements that meet the identified transportation needs are consistent with and will support the established economic development goals of the communities in the study area. To meet the Economic Development goal, a concept must support the existing economy and/or planned economic development through improved safety, mobility and/or access..

The following concepts support the Economic Development goal:

- Freeway (Free-Flow Facility with Full Access Control): Would improve safety and mobility within the study area, which could enhance connectivity to regional and national markets. Limited access could negatively impact local communities and businesses; however, additional information is needed to better understand these considerations.
- Auxiliary Lanes: Would improve traffic flow on US 31 within the study area.
- Add or Lengthen Turn Lanes (Left or Right): Would improve traffic flow within the study area.
- Add / Extend Acceleration/Deceleration Lanes: Would improve traffic flow on US 31 within the study area.
- Cross Road Overpass/Underpass: Would provide more efficient crossings of US 31. Lack of access to/from US 31 could affect local residents and businesses; however, additional information is needed to better understand these considerations.
- Convert to Interchange: Would provide more efficient access to/from US 31, as well as across it. Would improve safety and mobility within the study area, which could enhance connectivity to regional and national markets.
- Unsignalized Intersection Improvements: Would improve safety and mobility within the study area, which could enhance connectivity to regional and national markets.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Economic Development goal.

6.2. EQUITY IN TRANSPORTATION

The Equity in Transportation goal is defined as equitable solutions that take into account the needs of underserved populations in the study area. To support this goal, the concept must improve safety, mobility, or access for underserved populations.

The following concepts support the Equity in Transportation goal:

- Bike/Pedestrian Facilities: Would improve multi-modal mobility by providing dedicated facilities for alternative modes of transportation, as well as options for active recreation.
- Improved Demand Based Service: Would improve mobility for underserved populations by providing transportation choices for those without vehicle access.

- Non-Motorized User Accommodations: Would improve multi-modal safety, mobility, and access by providing dedicated facilities or infrastructure improvements for users of non-motorized transportation modes.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Equity in Transportation goal.

6.3. MULTIMODAL ACCESS & CONNECTIONS

The Multimodal Access & Connections goal is defined as solutions that enhance modes of travel beyond passenger car and freight movement. The Multimodal Access & Connections goal is considered to be met when the concept has the potential to include sidewalk, trails or other non-motorized methods of travel, and transit.

The following concepts support the Multimodal Access & Connections goal:

- Cross Road Overpasses / Underpass: Would improve access across US 31 for non-motorized vehicles and active modes of travel.
- Bike/Pedestrian Facilities: Would provide infrastructure that accommodates non-motorized vehicles and active modes of travel.
- Improved Demand Based Service: Would provide improved transit service for users without vehicular access.
- Non-Motorized User Accommodations: Would provide infrastructure that accommodates non-motorized vehicles and active modes of travel.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Multimodal Access & Connections goal.

6.4. CORRIDOR CHARACTER

The Corridor Character goal is defined as solutions that preserve the characteristics of the study area. To support this goal, the concept must maintain the rural fit and function of the study area.

The following concept supports the Corridor Character goal:

- No-Build: Would maintain corridor character as this concept provides no changes to the existing US 31 facility through the study area.
- Gateway/Corridor Treatments: Would provide treatments that take the corridor and community character into account.
- Non-Motorized User Accommodations: Would provide accommodation for Amish buggies which are part of the character and agriculture industry in the study area.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Corridor Character goal.

6.5. SENSE OF PLACE & VISUAL CHARACTER

The Sense of Place & Visual Character goal is defined as solutions that promotes community visual character and quality of life. To support this goal, the concept must enhance US 31 as a gateway to local communities and enhance community identity.

The following concept supports the Sense of Place & Visual Character goal:

- Gateway/Corridor Treatments: Would provide aesthetic treatments that would promote sense of place enhance visual character.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Sense Of Place & Visual Character goal.

6.6. EMERGING TECHNOLOGIES

The Emerging Technologies goal is defined as solutions that supports alternative modes of transportation and alternative fuel vehicles. To support this goal, the concept must have the potential to interact with connected vehicles and/or support alternative fuel initiatives.

The following concept supports the Emerging Technologies goal:

- Speed Management: Would improve safety of the roadway through communicating safe travel speeds along the corridor.
- Warning Systems: Would improve safety at intersections by using technology to alert of conditions that lie ahead.
- Alternative Fuel/Electric Vehicle Considerations: Would provide messaging to direct users to alternative fueling/charging locations.

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Emerging Technologies goal.

6.7. FISCAL & ENVIRONMENTAL PRACTICALITY

The Fiscal & Environmental Practicality goal is defined as solutions that balance the scale of improvements with the impacts to the statewide budget and environmental resources. To support this goal, the concept must provide fiscally responsible improvements and avoid/minimize impacts to the human and natural

environment, including resources important to Tribal Nations. The concepts listed below support this goal as each of these concepts are expected to have minimal negative environmental impacts (positive impacts in some cases) and are expected to have good returns on the investments.

The following concepts support the Fiscal & Environmental Practicality goal:

- No-Build
- Median Safety Improvements
- Adjacent Intersection Improvements
- Add or Lengthen Turn Lanes (Left or Right)
- Realign Skewed Intersections
- Add / Extend Acceleration/Deceleration Lanes
- Intersection Sight Distance Improvements
- Traffic Control Visibility Upgrades
- Unsignalized Improvements
- Ramp Terminal Intersection Improvements
- Pavement Marking Improvement
- Roadway Signage Improvement
- Wildlife Crossing
- Roadway Lighting
- Roadway Drainage Improvement
- Speed Management
- Warning Systems
- Enforcement (Speed, Red Light Running)
- Alternative Fuel/Electric Vehicle Considerations
- Bicycle/Pedestrian Improvements

Other concepts may also support this goal; however, additional information is needed to make this determination. This information will be developed and considered during the Level 2 and Level 3 alternatives screening.

Based on the information available at this time, none of the alternatives carried forward from the UOA screening would preclude the ability to achieve the Fiscal & Environmental Practicality goal.

7. NEXT STEPS

As part of the Universe of Alternatives (Level 1) screening, fifty-five (55) transportation improvement concepts, including the No-Build Alternative, have been considered for the ProPEL US 31 North study area. These concepts have been qualitatively evaluated against the study area purpose and need, as well as evaluated for practicality.

Seven (7) concepts met only the "maintain" definition of study area needs but are considered practical. These concepts do provide benefit but will not be evaluated in the Level 2 screening process as they do not provide improvements to the study area. These concepts have been designated as Design Elements and may be incorporated, where applicable, into alternatives advancing from this PEL study.

Five (5) concepts, which are outside the control of INDOT, cannot be fully assessed for practicality. These concepts will not be advanced to the Level 2 screening. Although these concepts will no longer be considered as a stand-alone solution to the identified transportation needs in the study area, INDOT will continue to coordinate with the appropriate agency/entity to share information, including public input received during the study.

Eighteen (18) concepts were found to meet one or more of the study area needs and are considered practical. Five (5) of these concepts met a majority of the transportation needs. These concepts are designated as Primary Concepts and will be evaluated in the Level 2 screening process. Thirteen (13) of these concepts addressed some of the transportation needs and may provide some benefit at specific locations. These concepts are designated as Complementary Concepts and will be evaluated in the Level 2 screening process, primarily as location-specific application(s) in support of a Primary Concept.

All practical concepts are listed in Table 59. Primary and Complementary Concepts will be evaluated in the subsequent Level 2 screening process at Primary Intersections (i.e., locations where US 31 intersects with a roadway that is designated as a Major Collector or higher).

APPENDIX A. UNIVERSE OF ALTERNATIVES COMMENT PERIOD RESPONSES

The tables provided in this appendix list all comments received through the active Universe of Alternatives comment period from November 13, 2023 through December 22, 2023. Comments received from the public are provided in Table A-1 and comments/letters received from stakeholders, Tribal Nations, or agencies are provided in Table A-2. *Please note that comment text in the table reflects submission content verbatim.*

Table A-1 – Responses to Public Comments Received during the Universe of Alternatives Comment Period

#	Topic	Message	Response
1	Bike and Pedestrian, Economic Development, Mobility, Safety	I think cutting off access to 31 will make the back roads less safe for the people who travel them every day as more traffic will be routed through whatever road is chosen. Keep in mind too that we're an agricultural community and often have farm machinery on our roads. I also think consideration needs to be given to the businesses right off of 31 on some of the roads you may be closing down- the Fulton County Historical Society.	These comments mention access for drivers, particularly to businesses and for agricultural machinery, and also note safety along local roads. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including changes in access at CR 375 North near the Fulton County Historical Society. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, improving roadway safety for all users and meeting the mobility needs of residents, businesses, and service providers (including east-west mobility across US 31) were two of the identified purposes of the study, and will be considered during each level of screening.
2	Bike and Pedestrian, Environmental, Mobility, Safety, Overall US 31 Corridor, Universe of Alternatives	Vehicles drive way too fast on US31. That's the main problem, in my opinion. With that in mind, I think there are some things on your list that would help safety. Improvement of turn lanes would be great. When I slow down because I'm going to turn, it seems like all the impatient drivers are willing to run me over. Realigning skewed intersections and intersection sight distance improvements would be good too. From an economic standpoint, I'd hate to see access to US31 limited. The rural life here shouldn't have to suffer either. When I think about churchgoers, farmers, school bus drivers, emergency personnel, & delivery drivers and what an inconvenience, addition of driving time, waste of fuel, & aggravation this project is potentially going to cause, I'm extremely concerned. An aggravated driver becomes a problem for ALL of us who are on the highway with them!!!!	These comments mention several concepts considered in the Universe of Alternatives, including speeds along US 31, improvements to turn lanes, skewed intersections, intersection sight distances, and access management, as well as driving time. All such concepts were found to meet some of the identified study needs and be practical, and will be carried forward for further evaluation – Access Management (Section 4.2.3.), Add or Lengthen Turn Lanes (Left or Right) (Section 4.4.1.), Realign Skewed Intersections (Section 4.4.2.), and Intersection Sight Distance Improvements (Section 4.4.4.) as Complementary Concepts, and Speed Management (Section 4.7.2.) as a Design Element. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was one identified purpose of the study, and will be considered during each level of screening.
3	Economic Development, Safety, Universe of Alternatives	Living on the west side of 31 at Rochester, I understand the goal and purpose of reducing access to it. I feel a combination of limitation of access and the over/underpass proposals is best. My biggest concern is access to emergency services being increased by 10 min or more if 25 and 14 are the only "crossing" places. It is imperative that at 6th St (100 N), 3rd St (200 N) or Monticello Rd should have an overpass to access the western side of 31. People's lives and property will depend on it. The limitation of access will already have a negative effect on the community, as has been born out in numerous similar projects all over the state. We do not need to add to the potential danger of citizens with these short sighted plans.	These comments mention two concepts considered in the Universe of Alternatives, including access management and overpass/underpass, and also notes travel time, particularly for emergency services. Both concepts were found to meet some of the identified study needs and be practical, and will be carried forward for further evaluation – Cross Road Overpasses/Underpasses (Section 4.4.6.) as a Primary Concept and Access Management (Section 4.2.3.) as a Complementary Concept. The *Universe of Alternatives (Level 1) Screening Report* does not contain location-specific recommendations for any concepts, including changes at Monticello Road, CR 200 North/3rd Street, or CR 100 North/6th Street in Rochester. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was one identified purpose of the study, and will be considered during each level of screening.
4	Mobility, Safety, Universe of Alternatives	Not sure if this is the correct word choice, but would like option that keeps 1050 N houses & property untouched. Represtative at meetings said that is a cul de sac. I do not know if a right in or right out option achieves my stated goal.	These comments mention driveway access and minimizing impacts to a specific property/location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including CR 1050 North. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
5	Universe of Alternatives	"Practicality".... a unilateral and very subjective criteria is being used so liberally as to take vital information...officially ignore it....and then not integrate solutions the community has already developed in the corridor 31 planning and simply eliminate the needs when 31 is no longer commercially and via crossroads, available to the community. The use of "not practical" criteria removes all credibility from this study. Meridian Road and is vital as a parallel road for commercial access and so is a short stretch of Wabash Road. I understand my position is being considered targeted for elimination from consideration and am considering legal action to force our highway zoning and parallel Meridian road to be considered. Public officials tell me of your have a personal plan to submarine my vested interest in maintaining commercial access by Meridian...a parallel road. I understand you have personally confided that Propel....your office.... has an extreme prejudice to my interests and have actually confided that you will eliminate Meridian Road commercial access from consideration. The arbitrary "not practical" is	These comments note practicality and specific future use of Meridian Road and Wabash Road. The output of the PEL study process will be identification of reasonable alternatives in the study corridor, of which practicality is one factor. Practicality is defined in Table 2 of the *Universe of Alternatives Screening Report* and takes into consideration the costs of implementation, technical and logistical feasibility, appropriateness related to the purpose and need, and potential impacts. Practicality (i.e., reasonableness) is an important consideration for PEL and any subsequent NEPA studies. Typically, a screening process involves identifying a broad range of potential alternatives and then applying a standard set of evaluation criteria to eliminate alternatives that do not meet the purpose and need or are otherwise found to be unreasonable. Even if an alternative meets or potentially meets the purpose and need, it can still be rejected as unreasonable based on one or more other factors, including environmental impacts, engineering, and cost, as well as limited ability to meet the purpose and need. Stakeholder and public engagement are also an important part of the study process and help determine what alternatives move forward. This approach will enable INDOT to make an informed planning decision that considers all relevant factors associated with a potential

#	Topic	Message	Response
		the big "screw you" that was expected. You are acting as an adversary, not a legitimate "study" and clearly have highly prejudice intent against me personally. I will fight at every level the Propel elimination of a north interchange and Meridian Road commercial access.	alternative (i.e., costs, benefits, and impacts). Socioeconomic and environmental constraints have been and will continue to be considered throughout the study. While the Parallel Route Improvements concept (Section 4.3.2.) will not be carried forward for additional evaluation as a standalone concept for the entire study because it is not practical due to a lack of existing parallel routes that would meaningfully affect safety and operations along US 31, this concept – like all others that were not moved forward in this screening – will be considered, as needed, during the alternatives development and screening process to mitigate impacts associated with other improvement concepts. Clarification was added to the results section for any concepts that were not found to be practical in the *Universe of Alternatives (Level 1) Screening Report*. The document does not contain location-specific recommendations for any concepts, including at Meridian Road or Wabash Road. Both Meridian Road and Wabash Road serve valuable local purposes, and potential solutions at these intersections will be further evaluated as the study moves forward. No confidential information has been shared.
6	Safety	Nearly every volunteer fire department in this area is understaffed and relies heavily on mutual aid. The citizens can't afford to lose any intersections in Fulton, Miami, or Marshall counties. To do so would endanger firefighter and citizen lives and property. Please give us J turns at a minimum. We can't afford the precious time to travel past a closed intersection.	These comments mention concepts that were considered in the Universe of Alternatives, including access management and unsignalized improvements, and also note access by emergency services. Maximizing the safety of our roads is a priority for INDOT. As part of the Universe of Alternatives screening, all potential solutions that address the Purpose & Need were evaluated. "J-turns" are one of several concepts that fall within the family of Reduced Conflict Intersections (RCIs). Both Access Management and Unsignalized Improvements (which would include RCIs] were found to meet some of the identified study needs and be practical, and will be carried forward for further evaluation – Unsignalized Improvements (Section 4.4.9.) as a Primary Concept and Access Management (Section 4.2.3.) as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was one identified purpose of the study, and will be considered during each level of screening.
7	Safety, Overall US 31 Corridor	This is a general statement towards the entire project thought process. 1# Work on enacting a law that it is illegal to drive in the left lane unless passing and also required to enter said left lane in the case of a emergency/hazard vehicle on the shoulder. 1A# Install signs stating the new law 2# After which you can do J turns/left handed turns all you want, because it will be safer to do so.	These comments mention additional laws surrounding driving and passing lanes and also notes unsignalized improvements (which would include RCIs). Implementation of such laws is outside the control of INDOT and would require actions on the part of others. Therefore, such concepts are not advanced in the PEL study, though INDOT will continue to coordinate other agencies/entities to share information, including public input received during the study. Unsignalized Improvements (Section 4.4.9.) was found to meet some of the identified study needs and be practical and will be carried forward for further evaluation as a Primary Concept.
8	Universe of Alternatives	The Community Office Hour attendee brought the postcard and was under the impression that the map of the front that highlights CR 700 North and CR 300 North would be the only two access points along US 31 if it becomes a freeway. The commenter is against the overpass that is planned at CR 700 N. The commenter said the road serves a county commissioner and not the Amish, and that once the landfill is at capacity, it will be unnecessary. When asked about needs for access, the commenter mentioned CR 450 and Business 31 in Fulton County. The commenter said that when the county had two local roads closed, it added at least five miles in each direction to his trips. That is because of the river and the lack of river crossings. The commenter also expressed concerns about the increase in traffic on US 31 (said it had quadrupled in the past 10 years), and the danger of trying to cross US 31 at the medians.	These comments mention another project within the study area, and also note access, travel time, limited river crossings, as well as traffic and safety concerns in the study corridor, particularly when trying to cross US 31. At this point in the study process, there are no location-specific recommendations for any concepts, including CR 700 North, CR 300 North, or Business 31. Those two locations are labeled on the mapping to indicate the northern and southern limits of the ProPEL US 31 North study area. The overpass at CR 700 N is a programmed project that INDOT is advancing through project development independent of the PEL study. The programmed project will be considered an existing condition for the ProPEL US 31 North study and this study will not preclude the scope of the programmed projects as they are designed and constructed. Coordination between the ProPEL US 31 North study and the project development work for programmed projects will be ongoing throughout the PEL study process. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including along CR 450 and Business 31. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, improving roadway safety for all users and meeting the mobility needs of residents, businesses, and service providers (including limited crossings of the Eel River) were two of the identified purposes of the study, and will be considered during each level of screening. Based on traffic volume forecasts derived from the Indiana Statewide Travel Demand Model, the average annual growth rate for traffic volumes on US 31 is 0.6 percent.

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9	Universe of Alternatives	A colasack at 1050 north would be the best alternative. Why take someone's homes when you can go north and south of it and take none.	These comments mention driveway access and minimizing impacts to a specific property/location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including along CR 1050 North. The Access Management concept (which would include driveway connections) was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
10	Universe of Alternatives	I am giving my opinion on this because I don't want my sister or me to loose our homes. I would Like to see a colasack to be at 1050 north instead of a overhead. Why take out 4 houses when none would need to be taken out if put on e0ither road north or south of 1050 north	These comments mention driveway access and minimizing impacts to a specific property/location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including along CR 1050 North. The Access Management concept (which would include driveway connections) was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
11	Mobility, Safety, Universe of Alternatives	We live between 300 N and 400 N. We are the only house between these two roads. We do not want to see any changes made at this address. We can see a mile in each direction, and our access to US 31 does not hamper traffic or create any measurable hazard. To change anything would cause undo financial hardship to us. (This comment is about a specific location. However, when I get to the page to select a specific location on the map, the map does not show for me to select.)	These comments mention driveway access and minimizing impacts to a specific property/location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including near CR 300 North and CR 400 North. The Access Management concept (which would include driveway connections) was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
12	Mobility	Stoplights should be removed and local access made available	These comments mention traffic signals and access management. Signalized Improvements (Section 4.4.8.) was not carried forward for further evaluation because no traffic signals exist along the US 31 North corridor. The Access Management concept (Section 4.2.3.) was found to meet five study area needs and be practical and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, meeting the mobility needs of residents, businesses, and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was one identified purpose of the study, and will be considered during each level of screening.
13	Overall US 31 Corridor	Why not end the 31 north section at the county line road (W CR 400 N) as most other jobs have done in the past?	These comments mention the study area and study limits. The US 31 corridor was separated into north and south study areas to best match the character of each study corridor, as well as to maximize community engagement efforts. The US 31 South study area extends from 276th Street in Hamilton County to just south of the Eel River in Miami County, excluding the Kokomo bypass. The US 31 North study area extends from just south of Eel River in Miami County and south of the Fulton/ Marshall County line. The US 31 North corridor segment is more rural than the US 31 South study area. Greater traffic volumes, congestion and the presence of interchanges and traffic controls in more urban areas of Peru, Grissom Air Reserve Base and Kokomo helped define the US 31 South study area. As the PEL studies advance, the US 31 North and US 31 South teams will coordinate to make sure recommendations work across study area boundaries.
14	Overall US 31 Corridor	Please absolutely no J-turns. Very hard to manage a full tractor trailer setup to safely complete this type of section just to cross the highway.	These comments mention unsignalized improvements and also note safe use by large vehicles. Maximizing the safety of our roads is a priority for INDOT. As part of the Universe of Alternatives screening, all potential solutions that address the Purpose & Need were evaluated. "J-turns" are one of several alternatives that fall within the family of RCIs. The Unsignalized Improvements concept (Section 4.4.9., which would include RCIs) was found to meet six study area needs and be practical, and will be carried forward as a Primary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes large vehicles such as trucks accessing local grain elevators or industrial

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			services – was one identified purpose of the study, and will be considered during each level of screening. If advanced for further evaluation, RCIs would designed to fully accommodate the wide turning radius of tractor-trailer trucks and other large vehicles, such as school buses (https://www.in.gov/indot/traffic-operations/reduced-conflict-intersections/).
15	Mobility, Safety, Overall US 31 Corridor, Universe of Alternatives	They need to keep in mind of the emergency vehicles. How long does it take to get to the hospital?	These comments note travel times for emergency vehicles. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations nor quantitative evaluation for any concepts at this level. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes emergency services – was one identified purpose of the study. Performance measure(s) that will be considered in future levels of screening to maintain or improve east-west mobility at important crossing locations will include safety, access, traffic operations (delay), and traffic volumes. Coordination with emergency services will be ongoing throughout the ProPEL US 31 North study process.
16	Mobility, Safety	Nyona Lake people need fire and ambulance services from Macy In 46951 services from any other town are to far away to save lives	These comments note travel times and accessibility for emergency vehicles to a specific area. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations, including to Nyona Lake, for any concepts. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes ability to access US 31 and cross-highway connectivity across US 31 – was one identified purpose of the study. Performance measure(s) that will be considered in future levels of screening to maintain or improve east-west mobility at important crossing locations will include safety, access, traffic operations (delay), and traffic volumes, particularly for emergency services. Coordination with emergency services will be ongoing throughout the ProPEL US 31 North study process.
17	Mobility, Safety, Overall US 31 Corridor, Universe of Alternatives	I would like to see a frontage road between South Wabash Road and Wabash Avenue.	This comment mentions consideration of frontage roads at a specific location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including along South Wabash Road and Wabash Avenue. The Access Management concept – which would include consideration of a frontage road – was found to meet five study area needs and be practical and will be moved forward (Section 4.2.3.). In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
18	Universe of Alternatives	Cloverleaf interchane	This comment mentions interchanges. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Convert to Interchange concept (Section 4.4.7.) was found to meet seven study area needs and be practical. Converting existing at-grade intersections to interchanges will be further evaluated as the study moves forward.
19	Universe of Alternatives	prefer cloverleaf interchange	This comment mentions interchanges. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Convert to Interchange concept (Section 4.4.7.) was found to meet seven study area needs and be practical. Converting existing at-grade intersections to interchanges will be further evaluated as the study moves forward.
20	Overall US 31 Corridor	How many people have died of involved in serious accidents in at-grade crossings on 31 within the past month??? All at-grade; crossings, intersections, entry/exits closed!!! No J-intersections used!!! Full ramp and overpass or underpass systems!!! NO MORE CHEAP and sloppy patch ups in the 31 FREEWAY!!!	This comment mentions safety and specifically notes facility type/access management as well as improvements at unsignalized intersections. Maximizing the safety of our roads is a priority for INDOT. As part of the Universe of Alternatives screening, all potential solutions that address the Purpose & Need were evaluated. "J-turns" are one of several concepts that fall within the family of Reduced Conflict Intersections (RCIs). The Freeway (Free-Flow with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward for additional evaluation as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, the Unsignalized Improvements concept (Section 4.4.9., which would include RCIs) was found to meet six study area needs and be practical, and is carried forward for additional evaluation as a Primary Concept. Improving roadway safety for all

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			users and regional and statewide mobility were two of the identified purposes of the study, and will be considered during each level of screening.
21	Bike and Pedestrian, Economic Development, Environmental, Mobility, Safety, Universe of Alternatives	I think Universe Alternatives are a good idea as long as they don't block other's and no around abouts	This comment generally is in favor of the Universe of Alternatives, other than roundabouts. Roundabouts (on US 31 mainline) could be part of the Unsignalized Improvements concept, which was found to meet six study area needs and be practical, so it was carried forward for additional evaluation as a Primary Concept (Section 4.4.9.). However, any unsignalized improvements that would add delay to traffic on US 31 would not meet the identified purpose and need for the study and would not be considered in future levels of screening. Roundabouts (on cross roads) could be part of the Ramp Terminal Intersection Improvements concept, which was found to meet five study area needs and be practical, so it was carried forward for additional evaluation as a Complementary Concept (Section 4.5.4.). In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
22		Would like a access point on north side of county and south side of county. If only one access have it be in middle of county.	These comments mention local access in different areas. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, meeting the mobility needs of residents, businesses, and service providers – which includes ability to access US 31 and cross-highway connectivity across US 31 – was one identified purpose of the study, and will be considered during each level of screening.
23	Mobility, Overall US 31 Corridor	As an officer for the Historic Michigan Road Association and a resident along the Byway, I believe consideration should be given to ensure free flow northbound and southbound where old US 31 – the Michigan Road Byway, officially recognized by INDOT – is overlaid by the current US 31 upgrade. Otherwise the disruption of traffic flow along the historic byway would create hardships for travelers who use the road for historical or cultural purposes. Not providing for such free flow would subvert INDOT's own intention for preservation along its officially designated Indiana byways.	These comments mention the historic Michigan Road Byway and travel conditions along it. In the US 31 North study area, this historic byway is along SR 25 and its underpass under US 31 on the southern side of Rochester (and not along US 31). The *Universe of Alternatives (Level 1) Screening Report* does not contain location-specific recommendations for any concepts, including at the existing interchange of US 31 with SR 25. A representative for the historic byway has been offered an invitation to participate in resource agency coordination, which includes review and comment on all study-related documents.
24	Safety, Overall US 31 Corridor	I am in favor of making all sections of US31 between 465 and the 20 bypass freeway. I am also in favor of median safety improvements along with making the road a freeway.	This comment mentions freeway/access management and median safety improvements. The Freeway (Free-Flow with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, the Median Safety Improvements concept (Section 4.2.9.) was found to meet five study area needs and be practical, and is carried forward for additional evaluation as a Complementary Concept. Improving roadway safety for all users and regional and statewide mobility were two of the identified purposes of the study, and will be considered during each level of screening.
25	Overall US 31 Corridor	(I grew up in Indiana, and visit family there often) . 1) I believe US 31 should be limited-access, or at least traffic-signal free, between South Bend and Indianapolis. We need interchanges at various intersections particularly where there are currently three-color traffic signals This is consistent with much of US 31 in Michigan. 2) Would there be new interchanges be located? At SR14 and SR 16? If roadway geometry is an issue, should we at least have an access ramp from southbound US 31 to SR 14, as well as one from SR 14 to southbound US 31? 3) Would diverging diamond interchanges, single-point interchanges, or interchanges with roundabouts (or dog bone roundabouts, like in Carmel) be considered? 4) How will access to local	This comment mentions facility types/access management and interchanges, both in general as well as specific types and at specific locations. The Freeway (Free-Flow with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward as a Complementary Concept. The Convert to Interchange concept (Section 4.4.7.) was found to meet seven study area needs and be practical, and will be moved forward as a Primary Concept. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for

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		communities be addressed? 5) Would the existing interchange at SR 25 be affected if there is a full or partial interchange at SR 14?	additional evaluation. The document does not contain location- nor design-specific recommendations for any concepts, including types of interchanges at SR 14, SR 26, or SR 25. For the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. The Level 2 screening will analyze potential alternatives at primary intersections within the study area, including the US 31 and SR 16 intersection. The interactions between primary intersections within the study area and how impacts of a decision at one intersection effects other nearby intersections will be evaluated as part of the Level 3 screening.
26	Overall US 31 Corridor	I travel US 31 on a daily basis. I would like to see ALL of 31 to be like it is North of Indy, around Kokomo as well as around Lapaz and Lakeville. That is without a doubt safer as well as faster. Thank you!	These comments mention the facility type in the study corridor and note safety and travel times. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Freeway (Free-Flow with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, improving roadway safety for all users and regional and statewide mobility were two of the identified purposes of the study, and will be considered during each level of screening.
27		The Community Office Hour attendee's concerns focus on continuing access (they live off of 100 N) to US 31, or where traffic will be diverted if that access is cut off. They are also concerned about emergency vehicles being able to access or cross US 31.	These comments mention local access changes and minimizing impacts at a specific property/location and also note access by emergency services. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including along CR 100 North. The Access Management concept (which would include driveway connections) was found to meet five study area needs and be practical (see Section 4.2.3.) and will be moved forward. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, meeting the mobility needs of residents, businesses, and service providers in the study area – which includes emergency services – was one identified purpose of the study. Performance measure(s) that will be considered in future levels of screening to maintain or improve east-west mobility at important crossing locations will include safety, access, traffic operations (delay), and traffic volumes. Coordination with emergency services will be ongoing throughout the ProPEL US 31 North study process.
28	Overall US 31 Corridor	The CR150S/Wabash Ave (near Rochester) is an important and critical access point for both north and south bound traffic.	This comment mentions access to US 31 at a specific location. CR 150 South/Wabash Avenue is identified as a primary intersection in the US 31 North Study area. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including CR 150 South/Wabash Avenue. Meeting the mobility needs of residents, businesses, and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was one identified purpose of the study, and will be considered during each level of screening. The Level 2 screening will analyze potential alternatives at primary intersections within the study area, including the US 31 and CR 150 South/Wabash Avenue.
29	Safety, Universe of Alternatives	I own 6202 and 6204 N 31. I'm one of the lucky people that have to turn from the left lane into the median and cross the southbound lanes to access my driveway. A turn lane in front if my house or a shared access drive with other properties close by would be awesome.	This comment mentions specific improvements for access at a specific property/location. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts. The Access Management concept – which would include consideration of turn lanes or a frontage road for driveway access – was found to meet five study area needs and be practical and will be moved forward (Section 4.2.3.). In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
30	Overall US 31 Corridor	31 on both sides of US 6 is noisy. 20 years ago i went to the US31 corridor meetings, and also wrote in concern about noise created by the semi-tires on concrete. you have turned a quiet	The comments are in reference to US 6 and notes concerns with the loss of access associated with upgrades to limited access facility in other areas of US 31. US 31 and US 6 is located outside of the US 31 North study area and therefore not part of this PEL

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		area over 1/2 mile away into a urban noise zone even though its in the country. constantly hear the singing of the tires on the pavement inside our well insulated home. Next thought, why is this road so bumpy. every bridge, rail road, creek and muck crossing is accompanies by large dips and swails in the road that make travel unforgiving. You have turned our small thriving towns into desolate, depleted, broken down communities. Your diamond interchanges lend to accidents (us6 and 31) poor side road entrance and exits at Lilac and Linden roads. Merging traffice at an intersection.....what is the matter with engineering. All along the highway you have created pockets of landlocked parcels that were once productive farmground. Now you sell it off and disclaim that the buyer needs to get an access and there are no guarantees. You have created difficult issues for farmers that need access on the other side of the roads by limiting the bridges. If you want to run an interstate thru an agricultural area, assure the farmers access and spend the extra money to create workable side roads and easements for farming. Not everyone wants to live on a dead end road and hear traffic 24/7. would imagine you will pull the same stunt with the us 30 corridor, have some meetings, let the people talk but do what every you want with no regards to them. Are you holding the contractors to completed project liability standards on bridges? sure seems like you continually have work to redo them on 31 north of US 6.	study process. ProPEL is an INDOT initiative for transportation planning that uses collaborative Planning and Environment Linkages (PEL) studies to consider environmental, community, and economic goals. As part of the Universe of Alternatives (Level 1) screening, fifty-five (55) transportation improvement concepts, including the No-Build Alternative, have been considered for the ProPEL US 31 North study area. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Access Management concept – which would include consideration of turn lanes or a frontage road for driveway access – was found to meet five study area needs and be practical and will be moved forward (Section 4.2.3.). In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
31	Mobility, Safety, Overall US 31 Corridor	It's important to move towards free flow conditions on us 31. This will require closure of crossings with redirection of crossing traffic.	These comments mention free-flow conditions in the study corridor. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Freeway (Free-Flow with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, improving roadway safety for all users and regional and statewide mobility were two of the identified purposes of the study, and will be considered during each level of screening.
32	Economic Development, Mobility, Safety, Overall US 31 Corridor	Hello, I wanted to submit a couple of comments for US 31 In general from South Bend to 465 Why are their always new plans and adjustments to complete us 31. Many EIS and project planes have been completed, presented ,adjusted in the past 23 + years. Why has US 69 been able to completed and not 31..? Why has the Mid Stats corridor in the southern part of the state been able to progress faster than 31..? South Bend is the only major city that does not have a complete interstate link to Indianapolis and in my option I think US 31 should become I67 from South Bend to Indy due to perfectly fitting in current numbered system, and also that funding should be PRIOROTIZED over any other highway project in the state.	These comments mention the facility type in the study corridor and also note funding and prioritization. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Freeway (Free-Flow Facility with Full Control of Access) concept was found to meet seven study area needs and be practical (see Section 4.2.5.) and will be moved forward as a Primary Concept. A freeway may be designated an interstate if certain conditions are met; however, not all freeways are interstates. INDOT is not including or considering applying for an interstate designation along the US 31 North study area. It is important to note that a freeway is a specific facility type that could be created by combining multiple improvement concepts identified in the Universe of Alternatives screening document, and that a major defining characteristic of facility type is the level of access management. The Access Management concept was found to meet five study area needs and be practical (see Section 4.2.3.) and will also be moved forward as a Complementary Concept. In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users. Additionally, improving roadway safety for all users and regional and statewide mobility were two of the identified purposes of the study, and will be considered during each level of screening. The ProPEL study is anticipated to be complete in late 2024. After the studies are complete, any reasonable alternatives will be considered by INDOT as part of their call for projects. In this process, projects are prioritized and potentially funded, those that are funded are typically developed over a five year timeline.
33	Safety	256th street should be considered as one of the first road closures as that intersection is an extreme safety hazard as people try to cross the highway. There is a business establishment on the east side that causes many concerns with safety. Too many cars trying to get on 31 with many accidents.	The comments are in reference to 256th Street, particularly in regard to closing the intersection due to safety issues. The intersection of US 31 with 256th Street is located outside of the study area of the US 31 North and South study areas and therefore not part of the PEL study process. ProPEL is an INDOT initiative for transportation planning that uses collaborative Planning and Environment Linkages (PEL) studies to consider environmental, community, and economic goals. As part of the

#	Topic	Message	Response
			Universe of Alternatives (Level 1) screening, fifty-five (55) transportation improvement concepts, including the No-Build Alternative, have been considered for the ProPEL US 31 North study area. The *Universe of Alternatives Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The Access Management concept – which would include consideration of turn lanes or a frontage road for driveway access – was found to meet five study area needs and be practical and will be moved forward (Section 4.2.3.). In future screening(s) for the PEL study, INDOT will develop and evaluate a range of access management approaches for roadway sections in the study area to better understand costs, benefits, and impacts of different access management strategies along the study corridor for all users.
34	Mobility, Safety, Overall US 31 Corridor	I'd like to see the SR 14 overpass utilized as a complete interchange with on and off ramps to eliminate the detour into Rochester which would also give another option for emergency vehicles to access.	These comments mention specific improvements at SR 14 and also note access by emergency services. The *Universe of Alternatives (Level 1) Screening Report* identifies practical alternative improvement concepts that meet the purpose and need for the study to be carried forward for additional evaluation. The document does not contain location-specific recommendations for any concepts, including at SR 14. The Convert to Interchange concept (Section 4.4.7.) was found to meet seven study area needs and be practical, and will be carried forward for additional evaluation. However, due to the close proximity of the SR 14 overpass to the existing SR 25 interchange, a new interchange at SR 14 is unlikely because INDOT prefers to have a minimum of 3 miles between adjacent interchanges in rural areas. Additionally, meeting the mobility needs of residents, businesses, and service providers in the study area – which includes emergency services – was one identified purpose of the study. Performance measure(s) that will be considered in future levels of screening to maintain or improve east-west mobility at important crossing locations will include safety, access, traffic operations (delay), and traffic volumes. Coordination with emergency services will be ongoing throughout the ProPEL US 31 North study process.

Table A-1. Responses to Stakeholder, Tribal, and Agency Comments Received during the Universe of Alternatives Comment Period

#	Topic	Message	Response
1	US 31 Coalition Comments	As Executive Director of the US 31 Coalition, I appreciate the opportunity to comment on the Universe of Alternatives document for the Propel 31 study. Given the length and the complexity of the corridor, we appreciate the time and attention given to the determining the best type of improvement for it. However, there are some general observations about the Alternatives documents (for both 31 North and 31 South) that I would like to submit. When considering the practicality of the improvement type, there are several perspectives I would like to offer: 1. It is stated that (regarding a freeway improvement), "Although this concept could require extraordinarily high costs for implementation and may create severe socioeconomic and/or environmental impacts, additional information is required to fully assess its practicality." There are two issues with this statement – first is the "extraordinarily" high costs for a freeway. The descriptor is subjective and doesn't consider the cost-benefit ratio that can be achieved with a freeway. Studies have shown that the most realistic CBI for a freeway US 31 is 4.83 (discounted at 3%). While it is true that the components of an interchange cost more than other solutions, it is not "extraordinarily" high considering the growth that is taking place in the corridor. Second, the "severe socioeconomic and/or environmental impacts" comment does not consider the impacts that exist today with an unreliable road that has tremendous safety challenges. The reality is that population and employment are a challenge in some un-improved US 31 corridor counties, but a study has shown that the construction of a freeway road is consequential for rural and rural transitional counties by reversing the negative or stagnant growth rates. The "severe" socioeconomic impacts are already occurring, in part, because of lack of confidence in the current transportation network. But we've already seen the impacts of a freeway attracting tremendous economic development with the new electric vehicle battery plants locating in Howard and St. Joseph Counties and the supplier plants locating nearby. With a US 31 freeway, the growth is assured throughout the corridor. Furthermore, the counties along the US 31 corridor have spent years working on their comprehensive plans to ensure that a freeway will improve safety and reliability and blend seamlessly into their communities, making sure that any negative impacts are minimized. The Universe of Alternatives document, and in particular, this portion of it, should fully incorporate the local plans to assess the viability of a freeway.	In the Universe of Alternatives (Level 1) screening report, no specific threshold or definition was provided for the term "extraordinarily high cost". In general, INDOT compares the costs of an alternative against its potential benefits and impacts to determine whether something is practical or reasonable. Should INDOT decide that potential costs are "extraordinarily high" when compared against the potential benefits and impacts of other alternatives, they may decide that an alternative is no longer considered reasonable and, therefore, should be eliminated from further consideration. While nothing in the Universe of Alternatives (Level 1) screening reports was eliminated solely based on costs, it was identified as a contributing factor in some cases. Costs will remain an important consideration during the Level 2 and Level 3 screenings. This approach will enable INDOT to make an informed planning decision that considers all relevant factors associated with a potential alternative (i.e., costs, benefits, and impacts). Socioeconomic and environmental constraints have been and will continue to be considered throughout the study. The ProPEL US 30 and US 31 studies are a "clean slate", and all options are under consideration. At this time, no decisions have been made about the future of US 31, and no projects related to the PEL study have been funded by INDOT. As part of the study process, previous plans and studies were collected and reviewed by the study team to provide a baseline of background information and knowledge. Public feedback is critical to the success of the study and your comment, along with other public and stakeholder input, will help to inform the next step in the alternatives analysis process. All of the suggestions which arise from the ongoing ProPEL US 31 PEL study are holistically considered by a team of engineers, traffic and environmental planners, and other industry professionals to include considerations for safety, mobility, impacts to the environment, and future economic development. As part of the Universe of Alternatives (Level 1) screening, all potential solutions that address the Purpose & Need were evaluated. The Universe of Alternatives (Level 1) screening was the first step in a three-step alternatives evaluation process. As part of the Level 2 screening, the ProPEL US 31 North study team will be analyzing potential alternatives at all primary intersections within the study area. The public will have opportunities to comment at each of the three steps within the alternatives analysis process. Please continue to check the website to stay informed about the study. Upcoming public meetings, community office hours, and additional study information will be posted on the study website when it is available (www.propelUS31.com).
2	US 31 Coalition Comments	2. The comment on practicality, "Considered to be rational and not excessive given the needs of the corridor?" is not the best measure to use in this circumstance. While the Department certainly want to determine if a project choice is "overbuild", I would argue that an "under build" is just as problematic. Freight tonnage and miles have more than doubled in the corridor between 2011-2021 and the Indiana Multimodal Freight Plan Update projects another increase of at least 50% in freight tonnage by 2045. In addition, the US 31 corridor is identified as a critical mobility corridor in at least three INDOT reports. Simplifying the solution to wait for another day will not serve this corridor well.	Practicality (i.e., reasonableness) is an important consideration for PEL and any subsequent NEPA studies. Typically, a screening process involves identifying a broad range of potential alternatives and then applying a standard set of evaluation criteria to eliminate alternatives that do not meet the purpose and need or are otherwise found to be unreasonable. Even if an alternative meets or potentially meets the purpose and need, it can still be rejected as unreasonable based on one or more other factors, including environmental impacts, engineering, and cost, as well as limited ability to meet the purpose and need. Stakeholder and public engagement are also an important part of the study process and help determine what alternatives move forward. The ProPEL US 30 and US 31 studies are evaluating existing and projected (i.e., year 2045) roadway operating conditions. The year 2045 traffic projections were generated by a traffic model created specifically for the ProPEL US 30 and US 31 studies (PEL studies model). The PEL studies model was created by taking INDOT's statewide model, which is a state-of-the-art traffic model used to predict traffic throughout the state and adding more detail around US 30 and US 31. The enhancements included adding local roads, calibrating the

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			model based on traffic counts at over 350 locations, and accounting for future land development. This model helps us understand current traffic volumes and how traffic will increase in the future on US 31.
3	US 31 Coalition Comments	3. I would like to point out that INDOT has already found that US 31 in Tipton County should be a limited access roadway according to the 2020 study performed by the Department. In addition, several other locations on US 31 have been designated as interchange locations in recent years (SR18 and Business 31 in Miami County, for example). These studies have already shown that the benefit of the limited access/underpass/overpass improvement is the correct solution, with the benefit outweighing any concerns. I hope that these will be updated accordingly moving into the 2nd screening.	The ProPEL US 30 and US 31 studies are a "clean slate", and all options are under consideration. At this time, no decisions have been made about the future of US 31, and no projects related to the PEL study have been funded by INDOT. As part of the study process, previous plans and studies were collected and reviewed by the study team to provide a baseline of background information and knowledge. A freeway (free flow facility with full control of access) is a specific facility type that could be created by combining multiple improvement concepts identified in this Universe of Alternatives screening document (e.g., Access Management, Convert to Interchange, Underpass/Overpass). Other facility types (e.g., free flow with no or partial access control, Expressway [i.e., no direct residential driveway connections]) could also be created by combining multiple improvement concepts identified in this Universe of Alternatives screening document in different ways. These facility types would provide a range of options to address safety, mobility, and access needs in the study area. A major defining characteristic of facility type is the level of access management. A common theme of the public comments received to date (including those received during the Universe of Alternatives screening comment period) is that maintaining local access to/from US 31 (i.e., alternatives with less access control) is important and should be considered as part of the PEL study. The Level 2 alternatives screening will focus on Primary Intersection improvements. The options for potential facility types in the US 31 North study area will be evaluated in the Level 3 alternatives screening. Public feedback is critical to the success of the study and your comment, along with other public and stakeholder input, will help to inform the next step in the alternatives analysis process. All of the suggestions which arise from the ongoing ProPEL US 31 North study are holistically considered by a team of engineers, traffic and environmental planners, and other industry professionals to include considerations for safety, mobility, impacts to the environment, and future economic development.
4	US 31 Coalition Comments	As freeway improvements have been made in four of the counties in the seven-county corridor, the Coalition is very concerned about maintained driver consistency and expectations. Having a mixture of solutions in different areas will lead to driver confusion and serve as an impediment to the commercial vehicle intensive industries that are locating or looking for opportunities to locate in the corridor. In just the last two years, there has been an investment of over $9b in Howard and St. Joseph Counties for electric vehicle battery plants, with numerous suppliers locating nearby. Leadership in the state has predicting that this investment will triple over the next several years, in addition to the other types of facilities that have located here in the last several years. The heavy vehicle traffic from these facilities will be interacting with the existing traffic by 2027, and having a reliable and predictable freeway is imperative for the safety of the drivers. Thank you for the opportunity to comment on the Universe of Alternatives document. Don't hesitate to let me know if you have any questions about any of the data presented here.	Maximizing the safety of our roads is a priority for INDOT. Driver expectation is a factor that affects safety and will be considered as part of the PEL studies. Current and projected (i.e., year 2045) roadway operating conditions were analyzed as part of the study. This information can be found in the ProPEL US 31 North Existing Transportation Conditions Report, which is available on the study website (https://propelus31.com/31doclibrary/). The Universe of Alternatives (Level 1) screening was the first step in a three-step alternatives evaluation process. As part of the Level 2 screening, the ProPEL US 31North study team will be analyzing potential alternatives at all primary intersections within the study area. The public will have opportunities to comment at each of the three steps within the alternatives analysis process.
5	Tribal Comments	This [study goals] does not seem to include any section with Tribal Resources in mind.	As discussed in our meeting of July 17, 2023, INDOT is engaging Tribes early in the transportation planning process via the ProPEL US 30 and US 31 studies. These studies are being conducted in accordance with Planning and Environment Linkages (PEL) process authorities articulated in federal law. Although this is a planning process and is not yet a Section 106 undertaking, INDOT is following the intent of the 2017 MOU between FHWA, Indiana State Historic Preservation Office (IN SHPO), INDOT, and Tribal Nations to "involve the Tribes' cultural experts to a greater extent and at an early point" and to "devote the time and energy needed to identify relevant transportation problems threatening cultural resources important to Tribes." This coordination effort is also consistent with general considerations required for a PEL study process.

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			In general, the purpose and need for each of the four study areas includes a goal focused on fiscal & environmental practicality. More specifically, this goal articulates an emphasis on providing fiscally responsible improvements, as well as avoidance/minimization of impacts to the human and natural environment. Although Tribal Resources are not specifically identified, they are certainly applicable and intended to be considered as part of this goal. Due to the consideration outlined above, Tribal coordination and preservation of cultural resources considered important to Tribal Nations was not specifically articulated as a goal. The language associated with the fiscal & environmental practicality goal for each study area was updated to specifically refer to "…avoidance/minimization of impacts to the human and natural environment, including resources important to Tribal Nations."
6	Tribal Comments	I always like for things to be defined, what is an extraordinarily high cost?	No specific threshold or definition was provided for the term "extraordinarily high cost". In general, INDOT compares the costs of an alternative against its potential benefits and impacts to determine whether something is practical or reasonable. Should INDOT decide that potential costs are "extraordinarily high" when compared against the potential benefits and impacts of other alternatives, they may decide that an alternative is no longer considered reasonable and, therefore, should be eliminated from further consideration. While nothing in the Universe of Alternatives (Level 1) screening report was eliminated solely based on costs, it was identified as a contributing factor in some cases. Costs will remain an important consideration during the Level 2 and Level 3 screenings. This approach will enable INDOT to make an informed planning decision that considers all relevant factors associated with a potential alternative (i.e., costs, benefits, and impacts). Tribal Nations will be provided the Level 2 and Level 3 screening reports for review and comment.
7	Tribal Comments	Do we get to help determine what is unacceptable?	Tribal coordination is an important part of the ProPEL US 30 and US 31 studies. As part of this coordination, FHWA and INDOT would appreciate input from the Tribal Nations regarding potential concerns and whether unavoidable impacts to resources would be considered unacceptable. This will help us identify potential constraints and help us to proactively incorporate avoidance and/or minimization measures into the alternatives development and analysis. While PEL studies enable planning decisions to be carried forward into project development, it is important to note that Tribal consultation will continue to occur during the Section 106 and NEPA processes.
8	Tribal Comments	The Tribal Historic Preservation Office (THPO) staff has reviewed the information you provided for this project. Upon review of site data and supplemental cultural history within our Office, the Forest County Potawatomi Community (FCPC) THPO is pleased to offer a finding of No Historic Properties affected of significance to the FCPC, however, we request to remain as a consulting party for this project. As a standard caveat sent with each proposed project reviewed by the FCPC THPO, the following applies. In the event an Inadvertent Discovery (ID) occurs at any phase of a project or undertaking as defined, and human remains or archaeologically significant materials are exposed as a result of project activities, work should cease immediately. The Tribe(s) must be included with the SHPO in any consultation regarding treatment and disposition of an ID find.	Comments noted.
9	Agency Comments: Indiana Department of Natural Resources, Division of	Our office will continue to review the alternatives as the process progresses; however, at this early stage we have no specific comments. Our office will assist the federal agency responsible for administering the project by evaluating the historical significance of the properties within the area of potential effect that will be part of future submissions to our office.	Comments noted.

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	Historic Preservation & Archaeology	The Indiana SHPO staff's archaeological reviewer for this project is Wade T. Tharp, and the structures reviewer is Toni Lynn Giffin. however, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.	
10	SAC Member Comments	The J-Turn name in the Universe of Alternatives is "Reduced Conflict Intersection". A variation of the J-Turn appears to be "Boulevard Left Turn/Median U-Turn Intersection". Alternate names for the J-Turn are not commonly recognized outside your offices. It is necessary for the public to understand terminology to knowledgeably respond to the Alternatives presented (by December 22, 2023). For accurate data gathering, I want you to add the term "J-turn" to the Alternatives: "Reduced Conflict Intersection" and "Boulevard Left/Median U-Turn Intersection" in the Universe of Alternatives require for public response as soon as possible. Please advise of action taken.	The US 31 North study team contacted the SAC member in regard to this comment, as requested. Maximizing the safety of our roads is a priority for INDOT. As part of the Universe of Alternatives screening, all potential solutions that address the Purpose & Need were evaluated. "J-turns" are one of several concepts that fall within the family of Reduced Conflict Intersections (RCIs), as was communicated to the public.
11	SAC Member Comments	B.F.,(RASPI#2, p. 69, 5/17/23):"Let's not overlook the impacts to locals. This can't be a "one size fits all" approach. It is especially concerning for EMS, schools, farmers, etc." (Local/rural residents are not included in ProPELUS equity definitions) "Rural needs" is not strictly a numbers game. Though sparsely populated, rural areas/residents are essential to the economic growth of Indiana and to feed families worldwide. Commercial transportation cannot be prioritized over the value of agri-business. Both lived experiences and desktop research are relevant and equal in this Project for a Win-Win outcome (a component of a collaborative process). Traffic movement in the rural area is unique. US31 proposed changes impact beyond the study corridor. Limited corridor consideration does not work for rural Miami County agri-business, fire protection, EMT services and schools. Large stretches of land, farms with land on east and west sides of US 31, large slow machinery and grain/animal trucks to elevators/packinghouses are distinctive rural features which impact local transport and north/south freeway traffic. One size does not fit all: Appropriate alternatives for individual crossings will differ. (Accepted: A freeway is a given for north/south traffic).	Persons who live in rural areas are included in the equity in transportation discussion for the ProPEL US 31 North study area. As stated in the Purpose and Need Report, equity is defined as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities. Underserved communities, as defined in that same report and also according to *Executive Order 13985 Advancing Racial Equity and Support for Underserved Communities*, include "persons who live in rural areas". The documented needs of the study area include both meeting the mobility needs of residents, businesses, and service providers in the study area as well as enhancing the efficiency and reliability of US 31 as a regional and statewide corridor. There is no prioritization of identified study purposes and needs. Current and projected (i.e., year 2045) roadway operating conditions were analyzed as part of the study. The distinctive features noted in the comments are considered throughout the study documentation, and coordination with the noted parties has been, and will be, ongoing throughout the PEL study process. At this time, no decisions have been made about the future of US 31, and no projects related to the PEL study have been funded by INDOT. The Universe of Alternatives (Level 1) screening was the first step in a three-step alternatives evaluation process. As part of the Level 2 screening, the ProPEL US 31 North study team will be analyzing potential alternatives at all primary intersections within the study area including traffic operations analysis. This analysis will be individual to each crossing, as noted.
12	SAC Member Comments	Assessment Criterion: Does this meet agri-business east-west crossing needs on US31? YES Acceleration/Deceleration Lanes: Useful for local cars and farm trucks; probably not applicable for very slow moving farm equipment due to speed differential. YES Access Management: Eliminate all at-grade access intersections cannot be done in this section and not every intersection needs to be kept open. Due to speed differentials of N/S and E/W traffic, a minimum of two overpass crossings are needed for agri/business, fire, EMT and schools between CR300N and SR16. Individual driveways need not open onto the freeway; business, church, home owners can be accommodated by frontage roads. Maybe Added Travel Lanes: If needed for higher-speed travel thru 2040 or to safely accommodate slower local traffic. YES Auxiliary Lanes: Frontage roads could be useful for local traffic and slower farm truck/equipment moving. A frontage road on the west side of US31 between CR 300 or CR400 & SR16 on the west side of US 31 would take care of traffic of 9 homes, businesses, churches and farms. Could N300W be a useful frontage road on the east side of US31? 3.7.4, p. 50-1, "Universe of Alternatives," Managed Lanes: Are these in the corridor or parallel to the corridor, i.e., frontage roads? These were rejected as "high cost". To whom? These would provide savings to locals/farms/businesses. Does this bespeak an unseen bias for roadway/state budgets over local county and business budgets? NO By-Pass: Not needed re: criteria used. Maybe for Rochester? NO Boulevard Left/Turn/Median U-Turn Intersection: A J-turn/RCI variation which seems to require stop lights that would impede high-speed freeway traffic on US31. Are the medians or shoulders wide enough to accommodate semis and farm machinery up to 80 ft. long without some extension into a turn lane? (Data shows J-turns are associated with an increase in certain types of crashes. In a report that studied 50 years of J-turns in the state of Michigan, the Mid-America Freight Coalition confirmed that "…these intersections are associated with a 25 percent increase in non-left-	These comments note suggested applicability of some concepts from the Universe of Alternatives to east-west crossing of agri-business, specifically. Meeting the mobility needs of residents, businesses (which would include agri-business), and service providers in the study area – which includes both the ability to access US 31 and cross-highway connectivity – was an identified purpose of the study, and as such, will be considered during each level of screening. As part of the Universe of Alternatives (Level 1) screening, all potential solutions that address the Purpose & Need were evaluated. Each potential concept was qualitatively evaluated against the purpose and need for the study and for practicality overall within the corridor. Even if a concept meets or potentially meets the purpose and need, it can still be rejected as unreasonable based on one or more other factors, including environmental impacts, engineering, and cost, as well as limited ability to meet the purpose and need. This approach will enable INDOT to make an informed planning decision that considers all relevant factors associated with a potential alternative (i.e., costs, benefits, and impacts). The Level 1 screening process identified 17 concepts which were found to meet one or more of the study area needs and are considered practical. While the outcome of the Level 1 screening process was not modified as a result of these comments on agri-business specifically, east-west mobility needs have been and will continue to be considered throughout the study and the comments will be considered as location-specific alternatives are developed in Level 2 screening. Performance measure(s) that will be considered in future levels of screening to maintain or improve east-west mobility at important crossing locations will include safety, access, traffic operations (delay), and traffic volumes.

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		turn rear-end crashes and a 20 percent increase in fixed object crashes). This will create danger for farm operators stopped with equipment extended into a turn lane unless safety barriers from freeway traffic were added. YES Collector Distributor System: This appears to be a version of frontage roads which would facilitate local and agri/business traffic. YES Cross Road Overpass/Underpass: These have been successfully used in Fulton Co. with the Amish Community and serve safety of both the slower east/west agricultural equipment/trucks and north/south high speed freeway high traffic. Grade separated interchanges are safe for slow traffic crossing high speed traffic. YES Free-Flow Facility: Could work for frequently used local roads that serve small towns/businesses/school bus routes/EMT/Fire Protection such as CR1000N and CR1500N. NO Green Tee Intersection: An explanation of this intersection is not found in the 75-page, "Universe of Alternatives Memorandum." The public cannot knowledgeably respond to this alternative. On the internet, this option involves stop lights, which ProPEL has stated are not safe on a high-speed freeway. What is the safety research of this intersection on a straight-away with high-speed traffic? NO Interchange: These are for bigger intersections than SR16/US31. Maybe applicable at Rochester, not for the rural farm area and the criteria used. NO Reduced Conflict Intersection (RCI): Another term for "J-Turn". Confusing to the average driver without a public education component to ensure safe usage, a wide enough median for semis and farm machinery to completely exit the roadway, or a "bulb-out" for long loads requiring a wide-turn. Not safe for high speed and very low speed traffic on the same grade. What does research report on J-Turns/farm equipment/oversized/overweight vehicles crossing safety? None could be found. Mid-America Freight Coalition, "Benefits and Limitations of J-Turn Intersections" January 27, 2016. Cost less and are easier to construct than grade-separated interchanges. J-Turn intersections may interfere with the operation of large vehicles. They are not specifically designed to accommodate large loads (referring to trucks, not farm equipment). Use of Jturns is associated with higher rear-end and fixed object crash frequencies. J-turns may not be able to accommodate large trucks, especially if the median is narrow, or there are only two lanes to turn onto without a "bump-out." Facebook US31 Coalition, 4/8/2020. "….cost savings should not be prioritized over Hoosier safety." "….J-turns were never designed for a high volume, high speed road like U.S. 31…." Maybe Right-In/Right-Out: Not for slower farm equipment which cannot achieve an entry speed necessary to avoid rear-end collisions with fast moving trucks and cars. NO Roundabout: Would take large area for diameter and would need to be relatively flat for loaded farm/industrial trucks and farm machinery. Not suitable for US 31 freeway; would interrupt high-speed travel.	
13	SAC Member Comments	Drug traffickers using US 31 through our communities now results each month in multiple highspeed chases (120-160 mph) at various times of day (police scanner). This creates additional safety concerns for law enforcement, farmers and local residents crossing US31. A safe assumption is that today drug traffickers are also impaired drivers decreasing road safety even further.	Comment noted. As documented in the *Universe of Alternatives (Level 1) Screening Report*, while speed enforcement can provide an effective means of reducing speed differentials in the study corridor and lead to fewer crashes, implementation is outside the control of INDOT and would require actions on the part of others and is therefore not carried forward as part of the ProPEL US 31 North study.
14	SAC Member Comments	Parallel route improvement. This Project includes a 1/2 mile corridor on each side of US 31. Consequences of the Project extend beyond that. Considerations on this issue will be offered in 2024.	The ½ mile study area is a reasonable basis for background documentation and is not intended to indicate the scope of potential impacts from future implementation of alternative(s) along the corridor. As documented in the *Universe of Alternatives (Level 1) Screening Report*, the Parallel Routes Improvements concept was determined to not be not practical based on its expected environmental impacts, and because it is not appropriate in scope and scale for the existing corridor (Section 4.3.2).
15	SAC Member Comments	Wildlife Crossings: What is the research on use of fencing to prevent wildlife crossings?	As documented in the *Universe of Alternatives (Level 1) Screening Report*, the Wildlife Crossing concept would meet three study area needs and is practical so will be carried forward for further consideration as a Design Element (Section 4.6.3.). As part of the Universe of Alternatives (Level 1) screening, each potential concept was qualitatively evaluated against the purpose and need for the study and for practicality overall within the corridor. The document does not contain specific recommendations for any concepts, including use of fencing to prevent wildlife crossings or other technologies to limit risk associated with wildlife attempting to cross US 31. Such details would be made during project development and will be analyzed and documented as part of the future NEPA environmental review process. These activities would occur after the PEL study is completed.

#	Topic	Message	Response
16	SAC Member Comments	What is the research on completed sections in rural areas of US31/similar roads on the safety, efficacy of each of these Alternatives? To assess Universal Alternatives presented, the public needs to know: A. Data from already completed projects in rural areas on proposed US 31 designs; and, B. Data from already completed projects on changes in tax revenues, population, agri/small business incomes, travel safety, EMT/fire protection efficiency, school revenues/access, cost of nearby road upgrades. **Without this data the public will need to acknowledge that we do not have the necessary available information needed to consider the consequences of the proposed changes. Educating the public in terminology and concepts falls to the ProPELUS31 professionals.	The ProPEL US 30 and US 31 studies are a "clean slate”, and all options are under consideration. At this time, no decisions have been made about the future of US 31, and no projects related to the PEL study have been funded by INDOT. As part of the study process, previous plans and studies were collected and reviewed by the study team to provide a baseline of background information and knowledge. Details of several noted items, such as tax revenue, would be made during project development and would be analyzed and documented as part of the future NEPA environmental review process. These activities would occur after the PEL study is completed.