



# **Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation**

**Section 3.16, Irreversible and Irretrievable Commitment of Resources**

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1    **3.16    Irreversible and Irretrievable Commitment of Resources**

2    Irreversible commitments involve the use or destruction of a specific resource (for example,  
3    energy and natural resources such as water, minerals, or timber) that cannot be replaced within  
4    a reasonable timeframe. These resources would be used in the project implementation and  
5    would never return.

6    Irretrievable resource commitments involve the loss in value of an affected resource that cannot  
7    be restored as a result of the action (for example, disturbance of a cultural site or extinction of a  
8    threatened or endangered species). These resources or their traditional use is lost for a period  
9    of time.

10   Resources of greatest concern are those that are considered scarce or rare and those  
11   resources where the effects cannot be minimized or mitigated.

12   **3.16.1   Regulatory Setting**

13   Irreversible and irretrievable commitments of resources directly relate to the trade-offs of  
14   implementing a project versus not implementing a project. Irreversible and irretrievable impacts  
15   were evaluated in accordance with the National Environmental Policy Act (42 United States  
16   Code § 4321-4347) and regulations published by the Council on Environmental Quality on  
17   implementing NEPA (40 Code of Federal Regulations 1502.16).

18   **3.16.2   Methodology**

19   Federal Highway Administration (FHWA) and Arizona Department of Transportation (ADOT)  
20   considered data from all the applicable resources documented in this Draft Tier 1 Environmental  
21   Impact Statement and Preliminary Section 4(f) Evaluation (Draft Tier 1 EIS). The resources of  
22   particular concern were those that could result in an irretrievable use, such as consumption of a  
23   resource or use of new land area committed to future transportation uses.

24   **3.16.3   Potential Impacted Resources**

25   The following resource areas may have an irreversible and irretrievable commitment of  
26   resources as a result of the construction of a Build Corridor Alternative.

- 27   • **Natural Resources:** Resources such as land, threatened and endangered species and their  
28    associated habitat, biological resources, water resources, and agricultural lands may  
29    experience irreversible and irretrievable effects. Given the level of analysis within this Draft  
30    Tier 1 EIS, specific effects and the attributes that would make the resources scarce or  
31    unique have not been determined. In general, the effects would be a result of the conversion  
32    from undeveloped land to developed land, including Interstate 11 and its related uses.
- 33   • **Cultural Resources and Section 4(f) Resources:** These resources are both scarce and  
34    impacts would be an irretrievable commitment. Sites located within the actual construction  
35    footprint would require documentation through data recovery. Archaeological artifacts could  
36    be preserved through curation but the historic integrity of the site would be lost. Impacts to  
37    historic sites outside of the construction area would be primarily contextual. Construction on  
38    new alignment could potentially impact traditional cultural properties.



- 1 • **Energy:** Energy resources such as oil and gas are not considered rare, but once used,  
2 these materials are not renewable. During construction, consumption of oil and gas would  
3 be increased for the construction time period. Advances in technology may contribute to a  
4 reduction in the consumption and usage of oil and gas in the long term.
- 5 • **Construction Materials:** These materials could include Portland cement concrete  
6 (concrete), asphalt concrete (asphalt), rock base course, and steel. Water would be  
7 consumed for the mixing concrete, washing equipment, and dust control. The use of these  
8 materials would be largely irretrievable; however, these resources are generally not in short  
9 supply.

10 Under the No Build Alternative, Interstate 11 would not be built; and new commitments of  
11 resources would not occur beyond those that could occur in relation to other projects and the  
12 maintenance of existing facilities.

### 13 **3.16.4 Summary**

14 Each of the Build Corridor Alternatives would impact irreversible and irretrievable resources.

15 The Purple Alternative would have a moderate resource need. It would require large amounts of  
16 undeveloped land and construction materials. However, these commitments would be less than  
17 what the Green Alternative would require. The Green Alternative would impact relatively more  
18 undeveloped land and require more construction materials.

19 The Orange Alternative would require the least amount of undeveloped land and construction  
20 materials. It would cause the least disruption to nearby natural resources due to its being largely  
21 co-located with existing transportation facilities. However, it would likely impact cultural and  
22 historic resources in the downtown Tucson area.

23 The No Build Alternative would not have a new commitment of resources so the existing  
24 conditions and baseline trends would continue.

### 25 **3.16.5 Potential Mitigation Strategies**

26 Specific mitigation strategies would be identified as part of the Tier 2 analysis. Implementation  
27 of Best Management Practices and mitigation measures, as described in the various resource  
28 sections, would minimize resource impacts.

### 29 **3.16.6 Future Tier 2 Analysis**

30 Potential effects and mitigations for the identified resources would be further evaluated as part  
31 of the future Tier 2 analysis. Those efforts would be used to refine the irreversible and  
32 irretrievable commitments of resources including the quantification of potential effects for each  
33 resource.