Lake Powell Pipeline

Draft Transportation Resources Work Plan

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Section 1
Introduction

The purpose of this work plan is to define the procedures for analyzing impacts on existing or proposed transportation resources for the Lake Powell Pipeline (LPP). This work plan presents the issues and concerns, defines the impact area and significance criteria, describes the analysis methodology, reviews existing data and identifies data needs, references an outline for the Transportation Resources Technical Report, and identifies dependency items and relationships to other resources.

Section 2
Issues

The following transportation-related issues were raised during the informal scoping process:

- What would be the impacts of providing water to the proposed areas on the existing transportation infrastructure?
- What would be the impacts on socioeconomic and transportation infrastructure from more development?
- What would be the impacts of constructing the pipeline along the Highways and roads within these southern Utah communities and counties?
- What would be the impacts on transportation networks from pipeline construction?
- What would be the impacts of the LPP project on roads and urban areas?

Additional issues that arise during the formal scoping process, or during the preparation of the analysis, will be added and addressed.

Section 3
Impact Topics

Impact topics include the following:

- Average Annual Daily Traffic (AADT)
- Level of Service (LOS)

Section 4
Impact Area and Significance Criteria

4.1 Impact Area

The impact area would include the following:

- all roads directly affected by construction activities
- construction traffic
- operations and maintenance traffic
- all roads in the area from development attributable to the LPP system

4.2 Significance Criteria for Each Impact Topic

Impacts on transportation would be considered significant if construction, operation or maintenance activities, or increased development associated with the alternatives would result in one or more of the following:

- A change in Average Annual Daily Traffic (AADT) of 10 percent or more for selected major roadways
- A change in level of service (LOS) below the acceptable LOS as defined by federal, state and local agencies for selected major roadways
- Vehicular travel delays of more than 15 minutes
- Re-routing of emergency response vehicles (3-mile detours on rural roads)
- Re-routing of normal traffic patterns (3-mile detours on rural roads)
- Accelerated roadway deterioration and increased maintenance costs

These criteria are based on discussions with traffic engineers from the UDOT, review of common traffic practices, and discussions with utility engineers, and best professional judgment.

Section 5
Methodology

5.1 Introduction and Overall Approach

The transportation analysis will examine the impacts of LPP construction and operations and maintenance on transportation resources impacts.

The analysis will examine construction and operations and maintenance traffic impacts. For major roads, base year AADT will be compared with peak construction year AADT and peak operations and maintenance AADT. The percentage increase in AADT will be calculated for each and the significance criteria applied to determine if significant impacts would occur. Base year LOS will be compared with peak construction year LOS and peak operations and maintenance year LOS. The change in LOS will be compared with the significance criteria to determine if significant impacts would occur. For minor roads, estimating the maximum construction and operations and maintenance trips per day and comparing them to baseline trips per day will determine significant impacts. If these trips would result in more than a 10-percent increase in AADT or a decrease in LOS, then the impacts will be determined significant. In addition, anticipated vehicular travel delays, re-routing of emergency vehicles, required detours, and any accelerated roadway deterioration and maintenance costs will be assessed for impacts from construction and operations and maintenance traffic.

5.1.1 Definition of Baseline Conditions

Transportation baseline conditions will be defined by current traffic patterns, current AADT data, and current LOS data. Baseline information regarding traffic and development will be taken from historical and recent trends in population and tourism in the area.

5.1.2 Analysis of Alternatives

Impacts on transportation will be analyzed for each of the alternatives. These impacts will be analyzed by looking at different road types, traffic patterns, length of new road development, road closures and traffic impediments caused by construction activities. Each of these will be quantified as much as possible by using AADT, LOS and road closure expected lengths.

5.1.3. Analysis of Cumulative Impacts

The transportation cumulative impacts analysis will address the combined impacts of the alternatives and any past or future proposed or planned actions that have or are likely to affect the transportation in the impact area. The inter-related projects will be identified during the analysis for consideration of cumulative impacts.

Section 6
Data Needs and Analysis

6.1 Data Needed

The data needed to perform the analysis include:

- Baseline, historic, and projected Average Annual Daily Traffic (AADT) for major roadways
- Percentage of AADT occurring during peak traffic loads
- Baseline level of service (LOS) categories for major roadways
- Minimum acceptable LOS categories for different road types
- Projected and historic population data
- Rights-of-way along potentially impacted roads
- Length of new roads to be constructed
- Field survey of baseline roadway conditions including number of lanes, presence of shoulders, surfacing material, road condition, and level of development along the road corridor

6.2 Data Available and Adequacy

The data required to complete the transportation analysis can be acquired from the following identified and existing sources:

- baseline, historic, and projected AADT for major roadways – is likely available from UDOT data
- percentage of AADT occurring peak traffic loads – is likely available from UDOT data
- baseline LOS categorizations for major roadways – is likely available from UDOT data
- minimum acceptable LOS categorizations for different road types – is likely available from UDOT data

- projected and historic population data from the economics resource – can be obtained from various planning and population studies by the State, counties, and other agencies
- right of ways along the impacted roads – can be obtained by State and local transportation departments
- length of new roads to be constructed – can be obtained through design and alternative analysis

6.3 Additional Data Needs

6.3.1 Primary

The following data will be required in addition to the data described in Section 6.2:

- Field survey of baseline roadway conditions including number of lanes, presence of shoulders, surfacing material, road condition, and level of development along the road corridor is required.

6.3.2 Secondary

The following data will be required in addition to the data described in Section 6.2:

- baseline, historic (20 years), and projected AADT and percentage of AADT occurring during peak traffic times for affected roads from Utah Department of Transportation and affected counties.
- baseline LOS categorizations for affected roads from Utah Department of Transportation and affected counties.
- minimum acceptable LOS categorizations for different road types from UDOT and affected counties.
- projected and historic population data from the economics resource.

Section 7
Procedures for Developing Mitigation

The analysis of impacts on transportation will be based on the standard operating procedures and measures to avoid or reduce impacts, both of which will be included in the project description chapter of the Draft Technical Report. The significance criteria for transportation will then be applied to determine if any impact would be significant. Mitigation measures would then be developed to offset significant impacts. The mitigation measures will be based on applicable state and Federal statutes and regulations, past experience and best professional judgment to either satisfy a legal requirement or to satisfy the public interest requirement. In some cases significant impacts may not be able to be mitigated. All reasonably foreseeable mitigation options will be evaluated by the Federal Energy Regulatory Commission, Bureau of Land Management, and other responsible federal agencies and factored into the respective decision documents.

Section 8
Technical Report

A technical report will be necessary to document in detail baseline conditions of and potential impacts on transportation resources. The technical report will follow the resource technical report outline common to all resource work plans (see Resource Technical Report Outline).

Section 9
Dependency Items from Other Resources

The following items are required from other MWH Team resource specialists:

- **Pumping Facilities:** Location of pumping stations.
- **Hydroelectric Generation:** Location of hydroelectric generation stations
- **Right of Way and Easements:** Widths and locations of right-of-ways and easements
- **Tunneling:** Determining locations for tunnels rather than parallelling the roadways
- **Pipeline :** Estimates of construction equipment used for determination of road closure needs
- **Storage Facilities:** Location of storage facilities to determine impact on transportation and need for access
- **Power Transmission:** Location of stations and lines to determine impact on transportation and need for access