
3.21 Indirect & Cumulative Effects

Federal regulations implementing NEPA (40 CFR 1508) defines indirect (secondary) and cumulative effects (cumulative impacts). See sidebar definitions. The following sections identify and describe potential indirect and cumulative effects that could result from the Proposed Action in combination with other past, present, or reasonably foreseeable future human actions or natural events near the project area. These other actions and events are called *external actions* because they take place independently from the Proposed Action. By considering external actions that could interact with the alternatives, the indirect and cumulative effects analysis allows potential unintended consequences of the alternatives to be identified.

The indirect and cumulative effect analysis for the proposed project alternatives include:

- Definition of spatial (geographic) and temporal (time frame) boundaries of the analysis
- Identification of past, present, and reasonably foreseeable future actions that could produce additive or synergistic environmental effects when combined with potential direct or indirect impacts of the alternatives
- Description and discussion of potential indirect and cumulative effects of project alternatives on the physical, biological, and human environments

Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. (40 CFR § 1508.8)

Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR § 1508.7)

For the purposes of this indirect and cumulative effects analysis, ~~the area of analysis for some impacts~~ is the entire Anchorage Bowl. For instance changes to land use and traffic which affect the project occur throughout the Bowl. In this analysis, however, the impacts most readily identifiable are anticipated to occur in the geographic area bounded by International Airport Road, Dimond Boulevard, Boniface Parkway, and Minnesota Drive. The time frame for consideration of future cumulative impacts is 20 years.

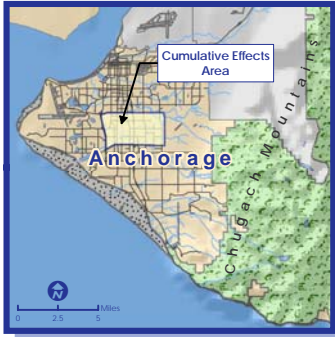


Figure 3.6264. Area of Indirect and Cumulative Effects Analysis

Past, Present, and Reasonably Foreseeable Future External Actions

Past and present actions include planning efforts and transportation system improvements such as double-tracking the Alaska Railroad mainline, construction of the CEA transmission line along the Dowling Road section line, construction of an interchange at Minnesota Drive and Raspberry Road, and installation of traffic signals along C Street.

Before 1950, the project area was largely undeveloped. Figure 3.6362 shows the area around Tina Lake in 1950. A few roads/trails and the railroad track, but very little other development, can be seen.



Figure 3.6362 Photo of Tina Lake in 1950

By 1975 (Figure 3.6463), the area looked noticeably different. The transportation network

was more extensive. Residential and commercial developments had been added along Dowling Road and Potter Drive. Industrial and commercial development was beginning to occur around Tina Lake.

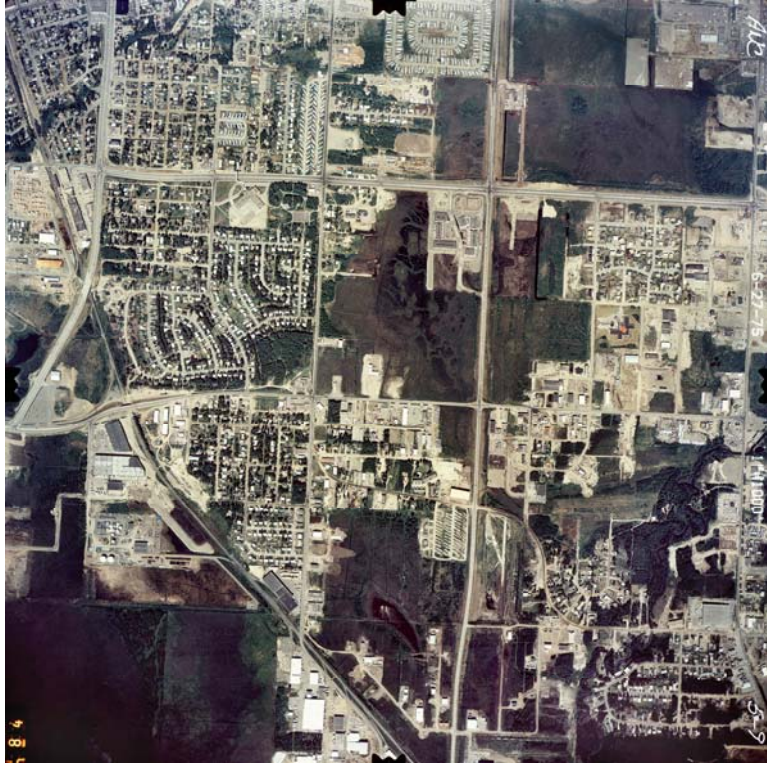


Figure 3.6463 Tina Lake in 1975

Since the 1975 photo, development in the project area has increased. Tina Lake is surrounded by industrial and commercial development, and more development has occurred along Dowling Road and Potter Drive.

Reasonably foreseeable future actions that have been identified within the temporal and geographic boundaries of the project area are discussed below.

Proposed Local Transportation Improvements

A grade-separated crossing is planned for the C Street crossing near 68th Ave. This project is ~~not~~ in the LRTP as a “long-term” project. ~~Therefore, its timing is uncertain.~~ **Long-term projects are planned for 2015-2025.**

MOA is planning to extend 68th Avenue from its current terminus at Minnesota Drive to Arctic Boulevard in summer 2007.

Dowling Road will be extended eastward from its existing terminus at Norm Street to Abbott Loop Road. This project is in the LRTP, and an environmental document is currently being developed.

Boniface Parkway is being extended to parallel Tudor Road and connect at 48th Avenue and Bragaw Street. This road will provide additional east-west capacity between Boniface Parkway and Lake Otis Boulevard. Traffic will have to use Tudor Road or Dowling Road to reach this extension. The Boniface Parkway extension may result in increased traffic along Dowling Road.

Development

Much of the Anchorage Bowl is already developed. In recent years, the project area has seen the development of several multi-family residential units. The demand for new residential construction is higher in other parts of Anchorage; therefore, it is unlikely the project area will see a noticeable amount of new residential units.

As the amount of available industrial land in Anchorage decreases, pressure will build for more intense development in existing industrial areas. Additional industrial land uses within the project area are anticipated.

A new Wal-Mart has been proposed on 64th Avenue near the intersection of Dowling Road and New Seward Highway. The area is currently zoned commercial.

In the next ten years, it is expected that the **ChangePoint Church** (former Alaska Seafood International) site will be renovated. The property has been purchased as a church. **Expected future** uses ~~expected~~ include church services, a charitable

automotive service, and a year-round sports facility.

Transit-Supportive Development Corridor

Implementation of Anchorage 2020 will result in more residential and commercial development along Arctic Boulevard. This corridor is expected to experience a growth in transit services and pedestrian trips.

Indirect and Cumulative Effects

Indirect and cumulative effects to air quality would primarily result from construction vehicle exhaust and fugitive dust emissions during site preparation and construction activities. These project-specific effects combined with other construction activities in the general area surrounding the project area will result in a minimal incremental adverse impact. An increase in travel efficiency associated with the Proposed Action could potentially reduce vehicle emissions in the Anchorage Bowl and is consistent with the LRTP and the Statewide Transportation Improvement Program. Air quality conformity analysis conducted as part of the LRTP encompasses all anticipated population, land use, and transportation projects in the Bowl. This project in conjunction with other planned projects meets conformity requirements.

Indirect and cumulative impacts to aquatic resources would occur primarily from soil erosion and sedimentation during construction. Indirect growth that might occur as a result of the project could increase impermeable surface and contribute to runoff. Drainage improvement proposed as part of the project would also help to treat runoff associated with that growth. When mitigation measures for the Proposed Action are considered, the incremental impact of the Proposed Action would be minimal.

The Proposed Action and indirect land use growth along the corridor would contribute to the removal of vegetation common to the area. Most of the

corridor has already been disturbed or developed. A segment of 68th Avenue would be revegetated, mitigating some loss of vegetation. Considering future development in the project area and the availability of similar vegetation/habitat, cumulative effects to vegetation are not considered **substantial significant**.

The Proposed Action in combination with other reasonably foreseeable future actions would have a minor cumulative impact on land use by removing some existing development and preventing some parcels from being developed. As part of the planning done for Anchorage, MOA plans anticipate that there is adequate land to replace the land being affected, and potential adverse cumulative impacts to land use would be minimal.

The Proposed Action could have a minor indirect impact on land use by encouraging additional development on the adjacent properties. The Proposed Action is consistent with land use and other reasonably foreseeable development based on planning documents such as Anchorage 2020 and the LRTP and is beneficial to these plan's implementation.

The Proposed Action would reduce the amount of privately owned land. It is assumed that this loss of property tax revenue would be offset by increases in property values of indirect growth of other parcels along the route, resulting in no adverse cumulative impact to the economy.

When combined with the East Dowling extension and Abbott Loop extension projects, the corridor would experience higher traffic volumes than without the Proposed Action. East of New Seward Highway, the Proposed Action would increase the ADT by less than 30 percent. Between Old Seward Highway and New Seward Highway, traffic volumes would be approximately 40 percent greater with the Proposed Action. Between Old Seward Highway and Potter Drive, traffic volumes would be approximately 50 percent higher with the Proposed Action. Traffic volumes on other routes would decrease, however, resulting in reductions in system-wide congestion and traveler delay. As

part of Anchorage's long range transportation plan, these changes are anticipated, consistent, and planned as a benefit to the traveling public. No adverse indirect or cumulative impacts are expected.

Most of the project area is considered uplands. The minor amounts of wetland (approximately 1.67 acres) needing to be filled as part of the proposed project would contribute to a cumulative loss of wetlands in the Anchorage Bowl. The affected wetland would represent less than 0.03 percent of wetlands in the Anchorage Bowl.

To minimize wetland loss, USACE, EPA, and MOA take measures to reduce the cumulative impact to wetlands in the Anchorage Bowl. The wetlands adjacent to Tina Lake are considered Preservation (or Class "A") wetlands. This type of wetland is considered the most valuable class of wetland in the Anchorage Bowl. Permits to fill in Preservation wetlands are generally limited to projects with a strong public need. The majority of the Preservation wetlands are in designated parks, making it unlikely that further cumulative impact would occur.

Resource agencies have participated in the development of the Proposed Action. In response to agency comment, the Proposed Action has incorporated measures to preserve wetlands. Indirect growth pressures along the project corridor could occur as a result of the project. Additional protection through conversion to public ownership is proposed on approximately half of Tina Lake.

The Proposed Action requires filling a portion of Tina Lake and would contribute to a cumulative loss of water bodies in the Anchorage Bowl.

No impacts to minority or low-income populations have been identified for the Proposed Action and therefore indirect and cumulative impacts to minority or low-income populations would be negligible.

The additional development that is expected as the result of the Proposed Action would result in a slight increase in employment and income in the Anchorage area.

No indirect or cumulative impact to utilities or contaminated sites is anticipated. The Proposed Action would not contribute to indirect or cumulative effects on cultural or historic sites.

The Proposed Action would have a long-term cumulative benefit to recreation resources due to the connection of the Campbell Creek Trail under the bridge.

Mitigation and Authorizations

Coordination with the Municipality of Anchorage, other local entities, state and federal agencies, and the public will be ongoing throughout the design and construction process to ensure that the direct, indirect, and cumulative effects of the proposed action are avoided and minimized to the extent practicable. The EA/FONSI will be provided to the Municipality and made available to all agencies and the public in order for them to better plan for future indirect and cumulative impacts from the action.