

Environmental Considerations and Mitigation Strategies

Federal regulations require metropolitan planning organizations (MPOs) to take a comprehensive approach to environmental and natural resource issues when developing their long-range transportation plans. For example, the 2015 Fixing America’s Surface Transportation (FAST) Act directs MPOs to consult with federal and state agencies to identify potential mitigation activities that can help restore and maintain environmental functions affected by the plan.¹

COMPASS has worked closely with both transportation and natural resource agencies and organizations throughout the development of *Communities in Motion 2040 2.0* (CIM 2040 2.0) to consider key environmental, community, and economic goals using an environmental suitability analysis originally developed for *Communities in Motion 2040*. With updated inputs, the analysis was re-run against the new CIM 2040 2.0 unfunded corridors and projects and the results were reviewed with the participating agencies.

ENVIRONMENTAL REVIEW PROCESS

COMPASS has collaborated with environmental and natural resource agencies, organizations, and other stakeholders through the *Environmental Review Workgroup*² since 2008 to address environmental issues relevant to long-range transportation planning. Details about the workgroup’s earlier activities can be found in the *COMPASS Environmental Review Process, 2008–2013*.³

Through the Environmental Review Workgroup, COMPASS is able to access the most current and complete environmental and resource data available for the two-county area. COMPASS has produced environmental and resource maps using the shared data and, in 2013, COMPASS and workgroup members drafted a methodology for using a *CommunityViz suitability analysis tool*⁴ to assess priority transportation corridors for environmental and resource values. The various environmental data sets were categorized to help stakeholders and the public visualize clusters of environmentally sensitive areas as well as enable the *CommunityViz suitability analysis tool* to identify key areas for preservation and/or conservation. Data categories governed by federal requirements were weighted with the highest values.

As COMPASS updated the transportation system needs for CIM 2040 2.0, the environmental analysis for the resulting priority transportation corridors was also updated. The workgroup reviewed the results of this updated environmental suitability analysis (Figure 1), which assigned scores based on the number of environmental data layers a project overlaps, based on available data. An area with a high score contains more environmental elements that could be impacted by a transportation project than an area with a low score.⁵

The following data categories were used in the analysis to catalog potential environmental impacts:

- Hydrological areas
 - o water quality and quantity
 - o runoff (stormwater)
 - o floodplains and floodway areas
 - o wetlands, streams, and canals
 - o groundwater

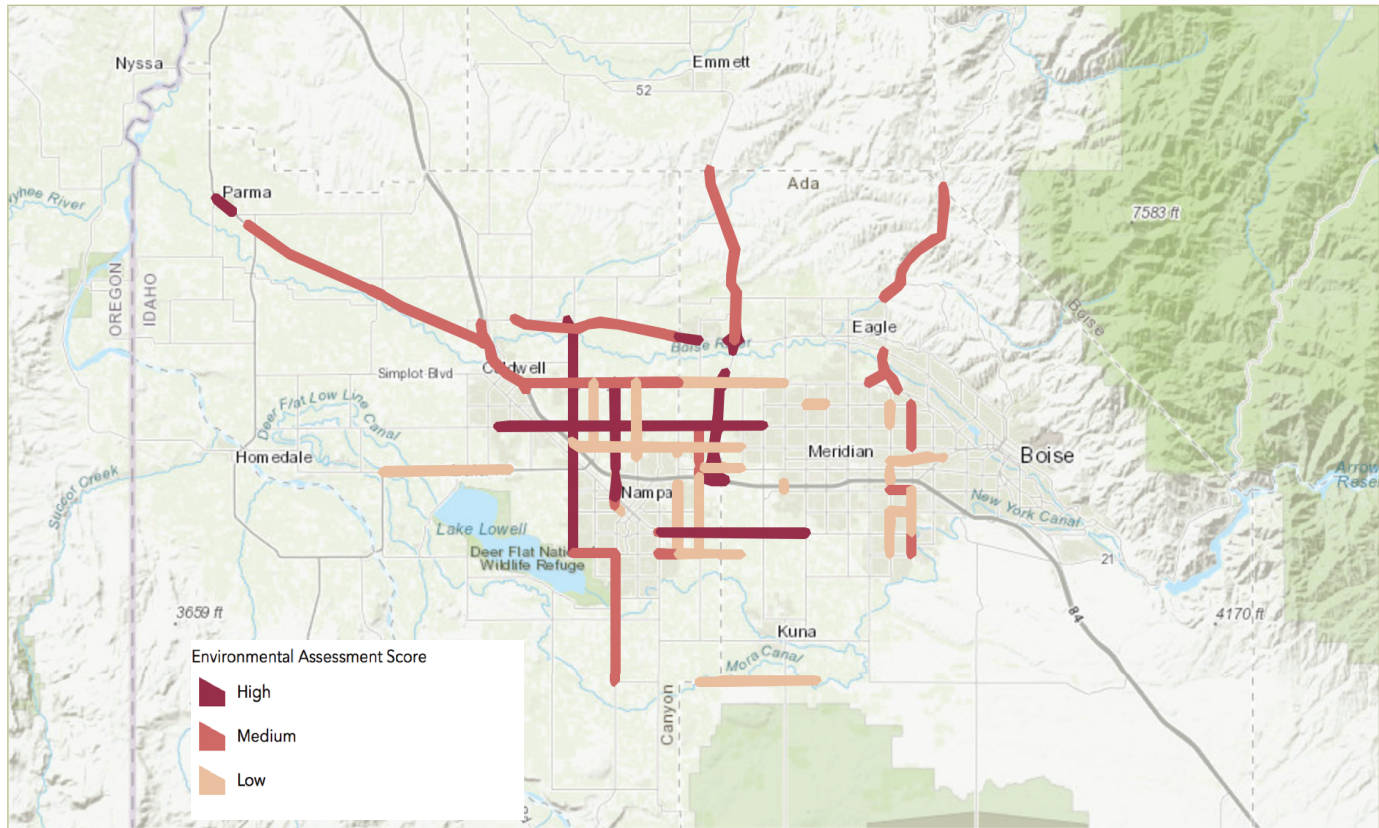


Figure 1. Potential environmental issues along priority corridors; access an interactive version of this map at <http://arcg.is/0G9O5X>.

- Habitat and wildlife areas
 - o Boise foothills
 - o wildlife management areas
 - o aquatic and riparian habitats
 - o endangered species
- Traffic noise
- Hazardous materials/contaminated sites
 - o potential remediation sites
 - o gas stations
- Cultural and historic resources
 - o historic sites, trails, and/or structures
 - o aesthetics
- Environmental justice consideration areas (areas with higher-than-average concentrations of low-income and/or minority populations)
- Open space, parks, and recreation areas
 - o parks
 - o cemeteries
- Agricultural and farmland



- Land use
 - o existing residential neighborhoods
 - o schools
 - o railroads
 - o National Guard “tank trail
 - o airports/private airstrips

The *unfunded* transportation needs were overlaid with the environmental data sets. The Regional Transportation Advisory Committee used the results to assist in the prioritization of unfunded corridors and projects.⁶ In the Appendix, a matrix reflects potential environmental issues affecting the unfunded transportation corridors. The matrix indicates that, for example, the Middleton Road widening from Greenhurst Road from the City of Nampa to the City of Middleton will potentially have issues related to hydrology, hazardous materials, open space, parks and recreation areas, agricultural and farmland, land use, traffic noise, and environmental justice; many of these are the result of the changing land use if the project were to be completed.

MITIGATION STRATEGIES

The following sections discuss general mitigation strategies for potential impacts based on the environmental suitability analysis for CIM 2040 2.0, as identified by the participating environmental and resource agencies.

The COMPASS long-range planning process uses the Federal Highway Administration’s (FHWA) *Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects*,⁷ which encourages federal, state, tribal, and local partners involved in infrastructure planning, design, review, and construction to use flexibility in regulatory processes. Specifically, the aspiration is to lay the conceptual groundwork for integrating plans across agency boundaries and endorse ecosystem-based mitigation of infrastructure impacts that cannot be avoided.

From an environmental standpoint, mitigation strategies refer to actions that can avert or lessen the environmental impact of a project. Mitigation actions should be approached in the following order, per the National Environmental Policy Act (NEPA):⁸

1. Avoid the impact altogether by not taking a certain action or parts of an action.
2. Minimize impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectify the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.
5. Compensate for the impact by replacing or providing substitute resources or environments.

Hydrological Areas

Water Quality and Quantity

Water quality and quantity are key considerations in any planning process. To minimize impacts in this arena, planning efforts should

- emphasize/require redevelopment over new development to preserve existing permeable lands;
- require low-impact development and strongly encourage zero-impact development;



- restore permeability, habitats, and ecosystems wherever possible; and
- avoid and/or fully accommodate sensitive ecological areas such as streams, riparian areas, wetlands, buffers, and groundwater recharge areas.⁹

Runoff (Stormwater)

Runoff from roads, parking lots, and other impermeable surfaces can collect pollutants and carry them to local rivers and other water bodies such as the Boise River and Lake Lowell. Permeable surfaces, where water can sink into the ground, such as lawns, fields, and even some types of cement, filter water as it passes through, reducing the amount of pollutants carried into local bodies of water while recharging underground aquifers.

General runoff mitigation strategies include

- establishing procedures to control runoff from construction projects;
- designing storm sewers to catch sediment runoff and prevent it from reaching streams and rivers;
- using water catch basins to detain runoff and allow water filtration;
- reducing the use of materials such as sand on icy roads;
- increasing road/surface sweeping to pick up materials before they enter storm drains; and
- using permeable surfaces where appropriate.

A road construction project may be subject to a federal Construction General Permit; if not, a stand-alone Stormwater Pollution Prevention Plan (SWPPP)¹⁰ or a Stormwater Management Plan must be developed.

General mitigation strategies include

- ensuring stormwater requirements are planned/met prior to project implementation;
- implementing a SWPPP or other stormwater management best practices;¹¹
- implementing erosion- and sediment-control practices; and
- involving relevant agencies early, including the Idaho Transportation Department (ITD), Idaho Department of Water Resources (IDWR), Idaho Department of Environmental Quality (DEQ),¹² US Environmental Protection Agency (EPA), US Army Corps of Engineers (ACE), local canal or drainage districts, health districts, city/county public works, and local highway districts.

Wetlands, Streams, and Canals

When planning transportation-related projects, avoiding streams and wetlands is the preferred strategy. Federal “no net loss” policies protect, restore, and enhance natural wetlands and other aquatic resources that could be adversely impacted by construction, maintenance, and operations activities. In the event of unavoidable impacts, federal mitigation rules require some sort of mitigation to help ensure no overall net loss of wetland functions; this may include wetland mitigation banking or wetland or stream corridor preservation.

Generally, all transportation projects that may result in the placement of fill (soil or rock) into wetlands, streams, rivers, and other water bodies must be evaluated to determine how to avoid the filling and, if unavoidable, how to minimize and mitigate for the loss. If federal funds are used for a project, the agency building or maintaining the road will be subject to FHWA or Western Federal Lands Highway Division policies regarding wetland mitigation.¹³



All permitting requirements, such as those falling under federal 401/404 “dredge and fill” permits, short-term activity exemptions from DEQ, and Stream Channel Protection Act permits from IDWR, must be met prior to project construction. Transportation agencies should involve IDWR, DEQ, EPA, and ACE early in the planning and/or design process.

Streams and wetlands are governed under federal mitigation standards,¹⁴ which require projects to

- adhere to “avoid, minimize, compensate” sequencing—that is, avoid impacts to a wetland or other aquatic resource, but, if that’s not possible, minimize impacts and compensate for them; and
- compensate for the lost functions of the impacted aquatic resources and set measurable and enforceable ecological performance standards to ensure successful compensation.

Groundwater

Groundwater provides a significant portion of the drinking water in southwest Idaho, and thus is extremely important to our growing population. However, population growth has the potential to negatively impact groundwater via increased pollution and new development, which can prevent water from seeping into the ground to recharge the groundwater storage (aquifers).

General strategies to mitigate construction impacts on groundwater include

- avoiding areas of high groundwater (where groundwater is close to the surface);
- closely monitoring activities near aquifer recharge areas;
- disposing of excavation materials in approved areas to avoid leaching;
- implementing steps in DEQ’s short-term activity exemption for dewatering operations to prevent intrusion into groundwater; and
- involving local highway districts, ITD, IDWR, DEQ, and EPA in groundwater mitigation activities.

Floodplains and Floodway Areas

Floodplains are areas that are likely to flood. They possess significant natural features and perform numerous functions important to the public interest. Federally funded projects and those involving federal lands must be evaluated for their impact on floodplains.¹⁵ Local agencies require permits under floodplain ordinances for structures in floodplains, including roads and berms. Most local ordinances do not allow structures in a floodway, the channel that carries water in a river or stream.

Regulations are intended to reduce the risk of floodplain loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains.

Habitat and Wildlife Areas

Transportation projects can severely impact wildlife and wildlife habitat. Road construction activities may spread exotic or invasive species, impair crucial habitat and wildlife resources, and/or divide—or “fragment”—wildlife corridors, which often causes animals to cross roadways, resulting in automobile crashes.

Crucial habitat contains the space, food, water, and shelter necessary for the survival and reproduction of wildlife. During the transportation planning process, no net loss of habitat should be the desired outcome. Mitigation, in order of priority, should include:



- avoidance, such as relocation of the entire project or most impactful portions of the project to a less sensitive area;
- minimization, or modifying the project proposal to use means that do not cause as great an impact. Minimal habitat disruptions can be specified through conditions of approval and/or alterations in project design;
- repair and restoration of an affected area to pre-disturbance conditions, or mitigating adverse impacts by restoring or even improving conditions; and
- compensation, such as replacing animal or habitat value; rectifying functions, habitat types, and species impacted; and/or providing financial mitigation or restitution to the public for the lost wildlife and/or habitat values.

Crucial habitat also includes wildlife corridors and areas that provide connectivity of wildlife populations. Habitat fragmentation can be avoided by consulting mapped habitat areas when planning roads and modifying routes accordingly. When a project unavoidably affects wildlife habitat throughways, impacts can be mitigated by providing strategic placement (or removal) of fences and/or animal passage systems such as wildlife bridges (underpasses), or other structures to span streams, wetlands, seepage areas, riparian areas, shorelines, and open water. These structures are often designed to accommodate both wildlife and water movement. Effective techniques for facilitating wildlife movement and maintaining overall habitat connectivity consider multiple factors such as placement, size, substrate, noise, temperature, light, and moisture.¹⁶

Several agencies should be involved early in the planning process: Idaho Department of Fish and Game, Idaho Department of Lands, EPA, US Forest Service, Bureau of Land Management (BLM), other public land management agencies (if lands are affected by the project), US Fish and Wildlife Service (if threatened, endangered, or proposed species habitat is involved), FHWA, ITD, IDWR, DEQ, counties, and local highway districts.

Traffic Noise

Traffic noise can be an ongoing issue for homes and businesses located along or near busy roads. General strategies to mitigate traffic noise address heavy truck volumes and high speeds, both of which typically increase noise levels.

Planners need to incorporate noise impact abatement techniques into projects and developments within or encroaching any major highway corridor or major local arterial roadway. Abatement options include the use of noise barrier walls, siting less-noise-sensitive uses, such as commercial or industrial facilities, closer to major roads, and designing buildings with no windows or other openings toward the roadway.

Noise can also be a short-term issue during road construction. Construction noise can be mitigated by controlling hours of work, sequence of operations, and project layout; shielding the work site; requiring certain equipment types and mufflers; and eliminating the use of backup beepers on equipment. Beepers may be eliminated if a flagger is used for backing of equipment or could be replaced by a flashing strobe light at night. FHWA's *Construction Noise Handbook* and construction noise model provide guidance for mitigating construction noise.¹⁷



Hazardous Materials/Contaminated Sites

If there are any indications that a tract of land pending development could possibly be contaminated with hazardous materials—such as from a leaking or abandoned underground storage tank (e.g., from an old gas station)—a site assessment must be conducted.¹⁸ The property should also be crosschecked against DEQ’s inventory of prior uses. If contamination is encountered, a remedial investigation can be conducted using DEQ’s *Risk Evaluation Manual for Petroleum Releases*.¹⁹

The presence of contamination or hazardous materials should not be cause to relocate a project. The cleanup and re-use of contaminated sites for transportation projects actually has several advantages, including avoiding impacts to uncontaminated sites and providing economic and safety benefits to the community. EPA, DEQ, ITD, local highway districts, and cities and counties should be involved early in the site assessment and remediation process.

Cultural and Historical Resources

Impacts to cultural and historic resources, such as historic buildings and areas with tribal significance, should be avoided if at all possible, and may be regulated under the National Historic Preservation Act²⁰ and Section 4(f) of the Department of Transportation Act of 1966.²¹

General mitigation strategies include

- consulting early with the state historic preservation officer and other interested persons and parties to determine what resources may exist in a specific area;
- engaging in community discussion; and
- employing relocation, marking, and other measures as appropriate.

Environmental Justice

State and local transportation agencies have a legal obligation to prevent discrimination and to protect the environment through their plans and programs. Any projects funded with federal dollars and those requiring federal action (such as a permit) must comply with the 1994 Executive Order “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” which states that each federal agency is required to develop an agency-wide environmental justice strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.²² The environmental justice strategy also requires effective community outreach to identify potential impacts. This process is intended to ensure that the project avoids, minimizes, or mitigates adverse effects on minority and low-income populations.

COMPASS has mapped minority and low-income populations in Ada and Canyon Counties to determine where priority transportation corridors intersect with populations of minority and low-income individuals (Figure 2). This information is considered when prioritizing projects and seeking public input into the Regional Transportation Improvement Program²³ (budget of federally funded projects) and the long-range transportation plan.

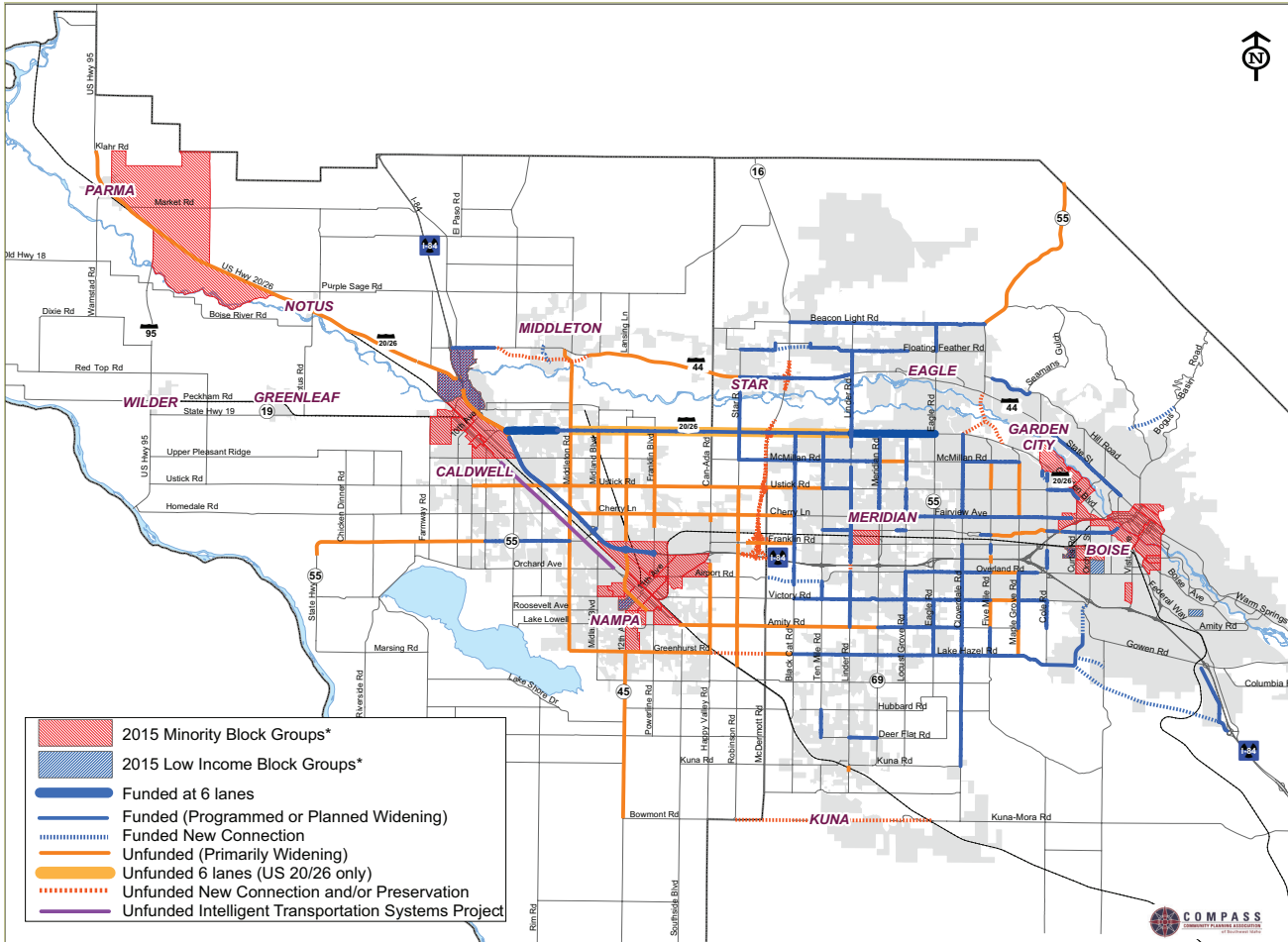


Figure 2. Ada and Canyon Counties' Environmental Justice Consideration Areas with funded and unfunded corridors. Data source: American Community Survey.

Mitigation strategies are guided by the following environmental justice principles:²⁴

- avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Open Space, Parks, and Recreation Areas

A publicly owned park, recreation area, wildlife or waterfowl refuge, or historic site, as well as designated wild and scenic rivers, are subject to federal requirements under Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) declares a national policy to preserve, where possible, "the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."²⁵



Transportation projects can cross “special lands” only if there is no other “feasible and prudent alternative” and the sponsoring agency demonstrates that all possible planning to minimize harm has been accomplished. Mitigation measures shall include one or more of the following:

- replacement of lands used with lands of reasonably equivalent usefulness and location, and of at least comparable value;
- replacement of facilities impacted by the project, including sidewalks, paths, benches, lights, trees, and other facilities;
- restoration and landscaping of disturbed areas;
- incorporation of design features and habitat features where necessary to reduce or minimize impacts to the Section 4(f) property. Such features should be designed in a manner that will not adversely affect the safety of the highway facility;
- payment of the fair market value of the land and improvements taken or improvements to the remaining Section 4(f) site; and
- additional or alternative mitigation measures that may be determined necessary based on consultation with the officials having jurisdiction over the parkland, recreation area, or wildlife or waterfowl refuge.²⁶

Section 4(f) is also called into effect when a project’s impacts in the proximity of the protected area are so severe that the resources’ activities, features, or attributes are substantially impaired, even if the project does not actually intrude into the protected area.

Section 6(f) of the Land and Water Conservation Fund Program provides matching funds to states and municipalities for planning, improvements or acquisition of outdoor recreational lands.²⁷ Typically, such properties are also regulated under Section 4(f), as discussed above.

Agricultural and Farmland

The Farmland Protection Policy Act²⁸ requires agencies to minimize federally aided conversion of “prime or unique” farmland, consider alternative options, and ensure that federal programs are compatible with state and local programs to protect farmland. Resource lands such as farmlands provide a wealth of benefits, including local goods and economic vitality, preserved agricultural heritage, sense of place, and environmental benefits such as wildlife habitat and groundwater recharge potential.

Encouraging growth within an existing community footprint is the primary way to minimize encroachment and development on agricultural lands. Planners and developers should consider designing compact and walkable communities and maintaining and maximizing use of existing infrastructure. Transportation planners working on projects in close proximity to farmland should involve local planning and zoning agencies and the Natural Resources Conservation Service in the process to preserve and minimize the loss of farmland.

There are no mitigation strategies to counter the loss of prime farmland or a change in use to non-agricultural uses once farmland is converted. To preserve prime farmland, planners should work closely with local land-use agencies and others such as the BLM and the Land Trust of the Treasure Valley to preserve open space and minimize low-density development. Cities and counties could consider agricultural zoning based on soil quality, mandating minimum parcel sizes based on the quality of the land and other locational factors, and/or mitigating for development next to farmland by vegetation barriers or topographic buffers. If farmland conversion is unavoidable, some examples of compensation include equivalent agricultural acreage provided elsewhere or fees paid.



Land Use

The density and mix of buildings and other constructed features shape people's travel needs and habits, which in turn also shape urban form. For example, in areas with higher densities and mixed commercial and residential buildings, people walk, cycle, and use other non-motorized transport more because trip distances are typically shorter and are less likely to require travel on major roadways. When personal vehicles are used in these areas, trips tend to be shorter, and ride sharing is more feasible because there is a greater likelihood that individuals are traveling to and from similar locations.²⁹ Transportation planning and design should incentivize high-density and mixed-use building to minimize land consumption from urban sprawl.

Siting and design considerations that mitigate impacts include

- considering the relationship between land-use patterns and travel modes; and
- zoning for open space and developing adequate facility provision ordinances.

To preserve open space and minimize low-density development, planners should work closely with local land-use agencies and others such as the BLM and the Land Trust of the Treasure Valley.

Air Quality

Air quality was not included in the environmental suitability analysis, as Ada and Canyon Counties share one airshed, so air quality issues are not tied to particular locations. However, this does not imply that air quality issues are any less important than issues addressed in the suitability analysis.

Strategies to preserve air quality and reduce pollution can be incorporated into general land-use and transportation planning. Compact and walkable community designs, expanded public and non-motorized transportation systems, and maintaining and maximizing the use of the existing transportation infrastructure can reduce transportation-related air pollution. Practical examples of these strategies include providing infrastructure to support carpooling and implementing bicycle and pedestrian plans.

Northern Ada County is an air quality "maintenance area" for carbon monoxide and coarse particulate matter (PM₁₀), meaning that Northern Ada County has violated federal health-based air quality standards for these pollutants in the past, but is now in compliance with those standards and has federally approved plans to maintain compliance in the future. As an MPO in a maintenance area, COMPASS must demonstrate that federally funded and "regionally significant" transportation projects will not degrade air quality in the Treasure Valley. This is referred to as an "air quality conformity demonstration."³⁰ Through required computer modeling, COMPASS has demonstrated that the estimated impacts of the funded projects in CIM 2040 2.0 meet air quality conformity requirements for Northern Ada County and will not degrade air quality.³¹

The Treasure Valley airshed is subject to stagnant air, which exacerbates the concentration of air pollutants and contributes to the possibility of exceeding health standards again in the future. Pollutants of particular concern are fine particulate matter (PM_{2.5}) and ozone. Strategies in this plan address these pollutants and are intended to reduce the likelihood of future exceedances.

In addition to air quality impacts of using the transportation system, dust generated by transportation-related construction can also cause short-term impacts. These impacts can be mitigated by developing and following a dust prevention and control plan and employing control measures such as

- watering roadways;
- covering loads;

- sweeping roadways;
- applying gravel on dirt roads;
- applying an environmentally safe soil stabilizer on dirt roads;
- limiting vehicle traffic on dirt roads; and
- reducing speed limits through construction zones.

Additional air quality mitigation measures during construction can include

- properly maintaining construction equipment;
- evaluating the use of available alternative engines and diesel fuels;
- reducing construction-related traffic trips and unnecessary idling;
- using newer, “cleaner” construction equipment;
- installing emission-reduction equipment on diesel construction equipment; and
- rerouting truck traffic away from communities and schools.

Adopting a construction emissions mitigation plan will help ensure procedures are sufficiently defined, thereby reducing air quality impacts.

Design and implementation of mitigation measures should include consultation with ITD, DEQ, local highway districts, cities, and counties.

State and local agencies and even private businesses have been proactive in protecting air quality throughout the Treasure Valley for several decades. In 1999, the Division (now Department) of Environmental Quality published *Treasure Valley Air Quality*,³² a regional look at the air pollution issues in Ada and Canyon Counties with a discussion of proactive strategies to control air pollution. This was followed by the 2003 *Practical Paths to Clean Air Governor’s Conference on Air Quality in the Treasure Valley*.³³ Subsequently, in 2005, then-Governor Dirk Kempthorne signed the Regional Air Quality Council Act into law. The act established the Treasure Valley Air Quality Council, which then developed the *Treasure Valley Air Quality Plan* in 2007.³⁴

Each of these has moved the conversation forward with new data and specific actions to curb air pollution and have all focused on the same types of recommendations: educate the public, plan a transportation system that encourages the use of alternatives and discourages idling, plan land use to reduce (or slow the growth of) vehicle miles traveled, and facilitate change in government and business practices and processes through incentives or, when necessary, regulation.

Some programs and projects were created specifically due to these collaborative efforts, while others developed of their own accord. A few of the many programs that support clean air in the Treasure Valley include:

- the adoption of *Communities in Motion* (CIM) long-range transportation plans,³⁵ including CIM 2030, CIM 2035, CIM 2040, and now CIM 2040 2.0, which promote development patterns that support the use of transportation alternatives, and thus decrease reliance on single-occupancy vehicles;
- an expanding alternative transportation network, including improvements in public transportation, vanpools/carpools, and bicycle and pedestrian facilities;



- public education and awareness campaigns, including campaigns in the early to mid-2000s sponsored by the Treasure Valley Partnership and DEQ and a campaign initiated in 2013 funded by the Air Quality Board and DEQ and managed by COMPASS;
- vehicle emissions testing in Ada and Canyon Counties;³⁶
- the implementation of a Stage I Vapor Recovery program;³⁷
- employer-based programs to reduce employees' vehicle miles traveled, including incentives to use alternative transportation and/or work from home;³⁸
- improving signal timing to reduce idling of cars in traffic;
- the implementation of local ordinances regulating open burning and limiting indoor residential burning based on air quality forecasts;³⁹
- a crop residue burning program to enable growers to burn crop residue under certain conditions while protecting public health from smoke impacts;⁴⁰ and
- organization-specific initiatives, such as purchasing fuel-efficient and alternative-fueled vehicles and maintenance equipment and using paints and other chemicals low in volatile organic compounds (contributors to air pollution).

In addition, any business or industry that emits air pollutants into the air is required to have an air pollution control permit from DEQ.⁴¹ The purpose of permits is to ensure compliance with all state and federal air pollution control rules, which are designed to protect public health and the environment.

SUMMARY

COMPASS collaborates with environmental and natural resource agencies, organizations, and other stakeholders to identify and address environmental issues relevant to long-range transportation planning. COMPASS has worked closely with both transportation and natural resource agencies and organizations in the development of CIM 2040 2.0 to consider environmental and resource issues, and identify general mitigation strategies.

It is important to remember that the environmental suitability analysis is as good as the data available to conduct it, and COMPASS continues to pursue more and better data for a more complete view of potential environmental impacts of transportation improvements. Other impacts, including effects on quality of life, are discussed in the *Performance-Based Planning* technical document.⁴²



NOTES

- 1 "Metropolitan transportation planning." *Code of Federal Regulations*. Title 23, 134 (i)(2)(D). <https://www.law.cornell.edu/uscode/text/23/134>
- 2 Environmental Review Workgroup, <http://www.compassidaho.org/people/workgroups.htm#erwg>
- 3 *COMPASS Environmental Review Process, 2008-2013*, COMPASS, http://www.compassidaho.org/documents/prodserv/reports/COMPASS%20Environmental%20Review%20Process%202008_2013.pdf
- 4 "About Scenario 360," City Explained, Inc., <http://communityviz.city-explained.com/communityviz/scenario360.html>
- 5 Technical process used to identify potential environmental issues along priority corridors, http://www.compassidaho.org/documents/prodserv/CIM2040_20/TechDocs/Technical_Analysis_Potential_Environmental_Issues.pdf
- 6 *Prioritization Process for Unfunded Transportation Needs*, CIM 2040 2.0, http://www.compassidaho.org/documents/prodserv/CIM2040_20/TechDocs/Prioritization.pdf
- 7 *Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects*, US Department of Transportation Federal Highway Administration, https://www.environment.fhwa.dot.gov/ecological/eco_index.asp
- 8 *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, Council on Environmental Quality, http://www.energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf
- 9 Ibid.
- 10 Pollution Prevention Plan template, Idaho Transportation Department, <https://apps.itd.idaho.gov/Apps/FormFinder2DMZ/Home/OpenLink?formnumber=2788>
- 11 "National Menu of Best Management Practices (BMPs) for Stormwater," US Environmental Protection Agency, <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater>
- 12 Idaho DEQ began administering the Idaho Pollutant Discharge Elimination System Program in 2018. The transfer of this program from the US EPA to DEQ will be phased. Learn more about the transfer at "Idaho Pollutant Discharge Elimination System Program," Idaho DEQ, <http://www.deq.idaho.gov/water-quality/ipdes>
- 13 Policies based on "Executive Order 11990 of May 24, 1977, Protection of Wetlands," <http://water.epa.gov/lawsregs/guidance/wetlands/eo11990.cfm>
- 14 "Compensatory Mitigation for Losses of Aquatic Resources." *Code of Federal Regulations*. Title 40, 230. https://www.epa.gov/sites/production/files/2015-03/documents/2008_04_10_wetlands_wetlands_mitigation_final_rule_4_10_08.pdf
- 15 "Executive Order 11988 of May 24, 1977, Floodplain Management," <http://www.archives.gov/federal-register/codification/executive-order/11988.html>. The intent is to "avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. For example, see the Army Corps of Engineers' "General policies for evaluating permit applications," Title 33, Section 320.4 (l), <http://www.gpo.gov/fdsys/pkg/CFR-2008-title33-vol3/xml/CFR-2008-title33-vol3-sec320-4.xml>.



- 16 *Overview of Transportation Impacts on Wildlife Movement and Populations*, Department of Natural Resources Conservation University of Massachusetts, https://ag.umass.edu/sites/ag.umass.edu/files/pdf-doc-ppt/tws_overview_ms.pdf
- 17 "Construction Noise," US Department of Transportation Federal Highway Administration, http://www.fhwa.dot.gov/environment/noise/construction_noise
- 18 "Brownfields All Appropriate Inquiries," US Environmental Protection Agency, <https://www.epa.gov/brownfields/brownfields-all-appropriate-inquiries>
- 19 *Idaho Risk Evaluation Manual for Petroleum Releases*, Idaho DEQ, <http://www.deq.idaho.gov/waste-mgmt-remediation/remediation-activities/risk-evaluation-manual>
- 20 National Historic Preservation Act of 1966, <https://www.achp.gov/sites/default/files/2018-06/nhpa.pdf>
- 21 Section 4(f) of the US Department of Transportation Act of 1966 declares a national policy to preserve, where possible, "the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/section-4f-department-transportation-act>
- 22 "Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," <https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>
- 23 "Transportation Improvement Program," COMPASS, <http://www.compassidaho.org/prodserv/transimprovement.htm>
- 24 "Department of Transportation Environmental Justice Strategy," US Department of Transportation Federal Highway Administration, https://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/dot_ej_strategy
- 25 Department of Transportation Act of 1966, https://www.nps.gov/history/local-law/fhpl_dotact.pdf
- 26 "Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges," US Department of Transportation Federal Highway Administration, https://www.environment.fhwa.dot.gov/legislation/section4f/4f_minor_parks.aspx
- 27 Section 6(f) of the Land and Water Conservation Fund Act, [http://ddotsites.com/documents/environment/Files/Chapters/Chapter_23_-_Section_6\(f\)_-_Land_and_Water_Conservation_Fund_Areas.pdf](http://ddotsites.com/documents/environment/Files/Chapters/Chapter_23_-_Section_6(f)_-_Land_and_Water_Conservation_Fund_Areas.pdf)
- 28 Farmland Protection Policy Act, <https://www.gpo.gov/fdsys/pkg/CFR-2013-title7-vol6/pdf/CFR-2013-title7-vol6-part658.pdf>
- 29 "Reference Sourcebook for Reducing Greenhouse Gas Emissions from Transportation Sources," US Department of Transportation Federal Highway Administration, https://www.fhwa.dot.gov/environment/climate_change/mitigation/resources_and_publications/reference_sourcebook/page04.cfm
- 30 "Air Quality Conformity Demonstrations," COMPASS, <http://www.compassidaho.org/prodserv/aq-demo.htm>
- 31 *Draft Conformity Demonstration for Communities in Motion 2040 2.0*, COMPASS, http://www.compassidaho.org/documents/prodserv/airquality/CIM20402_0Conformity.pdf



- 32 *Treasure Valley Air Quality*, Division of Environmental Quality, http://www.deq.idaho.gov/media/352833-tv_aq_report_1999.pdf
- 33 Summary of the 2003 Governor's Conference on Air Quality in the Treasure Valley, http://www.deq.idaho.gov/media/352816-conf_sum_2003.pdf
- 34 *Treasure Valley Air Quality Plan*, Treasure Valley Air Quality Board, http://www.compassidaho.org/documents/planning/studies/TVAirQualityPlan_Feb2007.pdf
- 35 "Regional Long-Range Transportation Plans," COMPASS, <http://www.compassidaho.org/prodserv/regltranpl.htm>
- 36 "Treasure Valley Vehicle Emissions Testing," Idaho DEQ, <http://www.deq.idaho.gov/regional-offices-issues/boise/vehicle-emissions-testing>
- 37 Vapor recovery is a process of capturing gasoline vapors that would otherwise escape during the transfer of fuel from delivery trucks to storage tanks at retail gas stations; when unchecked, these vapors contribute to air pollution.
- 38 "Rethink your commute," ACHD Commuteride, <http://www.commuteride.com/commute-options>
- 39 "Burn Restrictions and Bans," Idaho DEQ, <http://www.deq.idaho.gov/air-quality/burning/burn-restrictions-and-bans>
- 40 "Crop Residue Burning," Idaho DEQ, <http://www.deq.idaho.gov/air-quality/burning/crop-residue-burning>
- 41 "Air Quality Permitting," Idaho DEQ, <http://www.deq.idaho.gov/permitting/air-quality-permitting>
- 42 *Performance-Based Planning*, CIM 2040 20.0, http://www.compassidaho.org/documents/prodserv/CIM2040_20/TechDocs/Performance.pdf



COMMUNITIES in MOTION 2040 2.0

APPENDIX

Environmental issues matrix for CIM 2040 2.0 unfunded corridors/projects. Unless otherwise indicated, these are roadway-widening projects. Sidewalks and bike lanes are part of some state system projects and most local projects. The matrix does not include public transportation projects.

LS=Local System Priority SS=State System Priority Public transportation projects are not included.	Environmental Issues	Hydrological Issues	Habitat and Wildlife Areas	Hazardous Materials	Cultural/Historic Resources	Open Space, Parks, and Recreation Areas	Agricultural and Farmland	Land Use	Traffic/Noise	Environmental Justice
SS1 Interstate 84 (Widen from Western Caldwell to Exit 29)	High	•	•	•		•	•	•	•	•
SS2 US 20/26 (Chinden Boulevard) (Widen from City of Caldwell to Linder Road)	Medium	•		•			•	•	•	
SS3 SH 44 (Widen from Canyon Lane to Star Road)	Medium/High	•	•	•	•		•	•	•	
SS4 SH 55 (Widen from Pear Lane to Indiana Avenue in the City of Caldwell)	Low	•	•	•			•	•		
SS5 SH 16 (Construct new expressway from Interstate 84 to SH 44; widen from SH 44 to the Ada/Gem County Line)	Low/Medium	•	•	•	•		•	•		
SS6 US 20/26 (Widen from City of Parma to the City of Caldwell)	Medium	•	•	•			•	•		
SS7 Interstate 84/Interstate 184 Overpasses • Emerald Street (1.194; widen existing overpass) • Five Mile Road (1.34; widen existing overpass) • Linder Road (1.34; build new overpass)	Low/Medium	•				•	•	•		•
SS8 State Highway 55 (Widen from Beacon Light Road to the Ada/BoiseCounty Line)	Medium	•	•	•		•	•	•		•
SS9 SH 45 (Widen from Bowman Road to Greenhurst Road)	Medium	•			•		•			
LS1 Franklin Road (Widen from Star Road to Black Cat Road; includes curb, gutter, sidewalks, bike lanes)	Low			•			•	•		
LS2 Arroyo Road (Widen from Southside Boulevard to SH 69 (Meridian Road); includes curb, gutter, sidewalks, bike lanes)	Low	•	•	•			•	•		
LS3 Franklin Boulevard (Widen from Birch Lane to US 20/26; includes curb, gutter, sidewalks, bike lanes)	Medium	•	•	•		•	•	•		
LS4 Northside Boulevard (Widen from Karcher Road to US 20/26; includes curb, gutter, sidewalks, bike lanes)	Medium	•	•	•			•	•		
LS5 Happy Valley Road (Widen from Greenhurst Road to Stamm Lane; includes curb, gutter, sidewalks, bike lanes)	Low	•	•	•	•		•	•	•	•
LS6 Middleton Road (Widen from Greenhurst Road in the City of Nampa to SH 44 in the City of Middleton and reconstruct 1.84 overpass and river crossing; includes curb, gutter, sidewalks, bike lanes)	Medium	•		•		•	•	•	•	•
LS7 Ustick Road (Widen from Montana Avenue to Ten Mile Road; includes curb, gutter, sidewalks, bike lanes)	Medium	•			•		•	•	•	•
LS8 Midland Boulevard (Widen from Cherry Lane to US 20/26; includes curb, gutter, sidewalks, bike lanes)	Low	•		•			•	•		
LS9 Cherry Lane/Fairview Avenue (Widen from Middleton Road to Black Cat Road; includes curb, gutter, sidewalks, bike lanes)	Medium	•	•	•		•	•	•	•	•
LS10 Lake Hazel Road/Greenhurst Road (Widen Greenhurst Road from Middleton Road to 12th Avenue and from Southside Boulevard to Happy Valley Road. Construct a new road from Happy Valley Road to McDermott Road, including a railroad overpass. Widen Lake Hazel Road from McDermott Road to Black Cat Road)	Medium	•	•	•		•	•	•		



APPENDIX

LS#	Project Description	Environmental Issues	Hydrological Issues	Habitat and Wildlife Areas	Hazardous Materials	Cultural/Historic Resources	Open Space, Parks, and Recreation Areas	Agricultural and Farmland	Land Use	Traffic/Noise	Environmental Justice
SS=State System Priority LS=Local System Priority Public transportation projects are not included.											
LS11	SH 45 reroute (City of Nampa – 7th Street South to Interstate 94; realign and expand capacity)	High	•	•	•	•	•		•	•	•
LS12	North/South Kuna Corridor (railroad crossing in the City of Kuna)	Medium	•	•		•		•	•	•	
LS13	Star/Robinson Road (Widen from Greenhurst Road to Usick Road)	Medium	•	•	•			•	•	•	
LS14	Idaho Center Boulevard (Widen Achievement Drive to Cherry Lane; includes curb, gutter, sidewalks, bike lanes)	Low	•	•				•	•		
LS15	Caldwell/Nampa Boulevard Integrated Corridor Mobility Project (Strategies to promote safe, efficient, and reliable uses for all modes)	NA	○	○	○	○	○	○	○	○	○
LS16	Kuna-Mora Road to Bowman Road connection (Rebuild existing road and extend to connect; includes curb, gutter, sidewalks, bike lanes)	Low	•	•	•	•		•	•		
LS17	Three Cities River Crossing (preserve land for a future project; bridge over the Boise River east of the City of Eagle)	Medium	•	•	•	•	•	•			