

Just Vibes: Evaluating MnDOT’s Rethinking I-94 Alternative Scores

MnDOT is “confident in their analysis”. They shouldn’t be.

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Executive Summary

This report describes the evaluation process and preliminary findings for the Rethinking I-94 Project conducted by the Minnesota Department of Transportation (MnDOT), as outlined in their Alternative Scoring Rubric. MnDOT used three broad areas of consideration to evaluate the proposed I-94 alternatives: 1) project needs, 2) social, economic, and environmental impacts, and 3) goals and livability. This report highlights the following:

- **MnDOT’s evaluation is inconsistent and missing key metrics.**
 - MnDOT has numerous internal inconsistencies in their findings as well as their analysis, lacks a thorough evaluation of alternatives, and is missing many critical measures for evaluating the potential alternatives.
 - Missing metrics include those relating to public health, environmental justice, accessibility considerations, mode shifting, and others.
- **MnDOT’s evaluation framework is biased towards highways.**
 - MnDOT’s assessment evaluates the proposed options using a framework that grades them on how good the alternatives are at *being a highway* or *accessing the highway*. Thus, alternatives that would remove the highway inherently score lower.
 - Benchmarking the current freeway configuration raises serious concerns because it inherently prioritizes projects that don’t change from the current layout, challenging the entire premise of the “Rethinking” aspect of the project.
 - The majority of the Project Need indicators (70%) evaluate the mobility of people in vehicles, prioritizing throughput over safety, public health, and other considerations.
- **MnDOT’s project goals are conservative.**
 - The most ambitious public transit alternative estimates an increase of only 570 more people taking public transit on a daily basis, whereas they estimate an increase of 31,000 people per day taking auto transit in their most ambitious alternative.
 - The transit estimates across all alternatives are modest. MnDOT is assessing the degree of project goal/need conformity in relation to the No Build option, rather than what is needed to address our climate crisis, public health insecurity among residents of the corridor, deepening environmental justice impacts, and many other considerations.

Background

The Minnesota Department of Transportation (MnDOT) has been working on the [Rethinking I-94](#) Project since 2016. The project encompasses a 7.4 mile stretch from St. Paul to Minneapolis that includes Rondo, Frogtown, Summit-University, Hamline-Midway, Merriam, Prospect, and Cedar Riverside. As part of the project, MnDOT created ten [alternatives](#) to be considered for the project. Although MnDOT never formally shared the full details of their evaluation or the rubric and metrics they were using, a Data Practices Request fulfilled by the city of Minneapolis included two [draft documents](#) that reveal some of their evaluation methods. This report provides an overview of these documents and critiques the considerations that MnDOT is using to assess the proposed alternatives.

MnDOT’s Scoring Method for I-94 Alternatives

There are three broad areas of consideration that MnDOT used to evaluate the ten I-94 alternatives: 1) project needs, 2) social, economic, and environmental impacts, and 3) goals and livability (Figure 1). There is a supplemental section that evaluates additional considerations such as construction and maintenance cost. We did not evaluate this section as it contains limited and missing information. Some of the considerations MnDOT used to evaluate the alternatives are Qualitative Assessments (QA) that gauge whether or not the alternative meets that consideration. Most considerations are metrics that are evaluated against the No Build/General Maintenance option as the default option. Within each area of consideration, there are various supplemental factors used to evaluate the alternatives. A detailed overview of all measures is supplied at the end of this report.

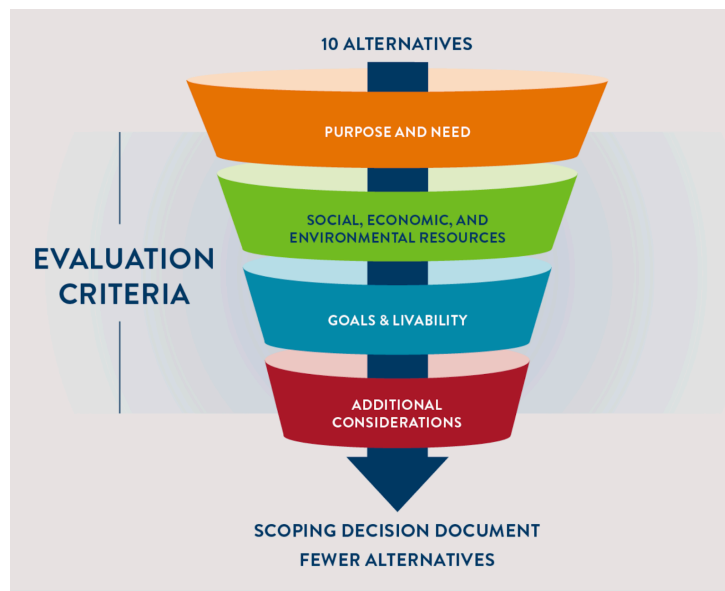


Figure 1. MnDOT’s Evaluation Criteria for Rethinking I-94 Alternatives.

Results of MnDOT’s I-94 Alternatives Scoring

MnDOT is inconsistent in the scoring method they use to evaluate these alternative options. Whereas a score of 3 is categorized as “best”, or color green, in the Project Needs and Goals and Livability sections (3 = “Meets Purpose and Need” and “High potential to advance project goals”, respectively) , a score of 1 is categorized as “best”, or color green, in the Social, Economic, and Environmental Impacts section (1 = “Improvement compared to no build OR limited potential for impacts”). For this reason, we reversed the scoring measure for the Social, Economic, and Environmental Impacts section to standardize the scales for easier interpretation. We then summed the overall scores to see which alternatives MnDOT scored the highest overall (Figure 2) as well as stratified by specific section (project needs, goals and livability, and social, economic, and environmental impacts). The percentage represents the percent of maximum points available given the number of considerations that

were used within each section (4 for Project Needs, 5 for Goals and Livability, and 13 for Social, Economic, and Environmental).

MnDOT's scoring results in Reduced Freeway A as the best overall alternative, scoring 68% of maximum points available across all domains, followed by Maintenance B and Reconfigured Freeway A. The At-Grade options score the same as Expanded Freeway A, but higher than Expanded Freeway B and Local/Regional Roadways according to MnDOT's evaluation (Figure 2).

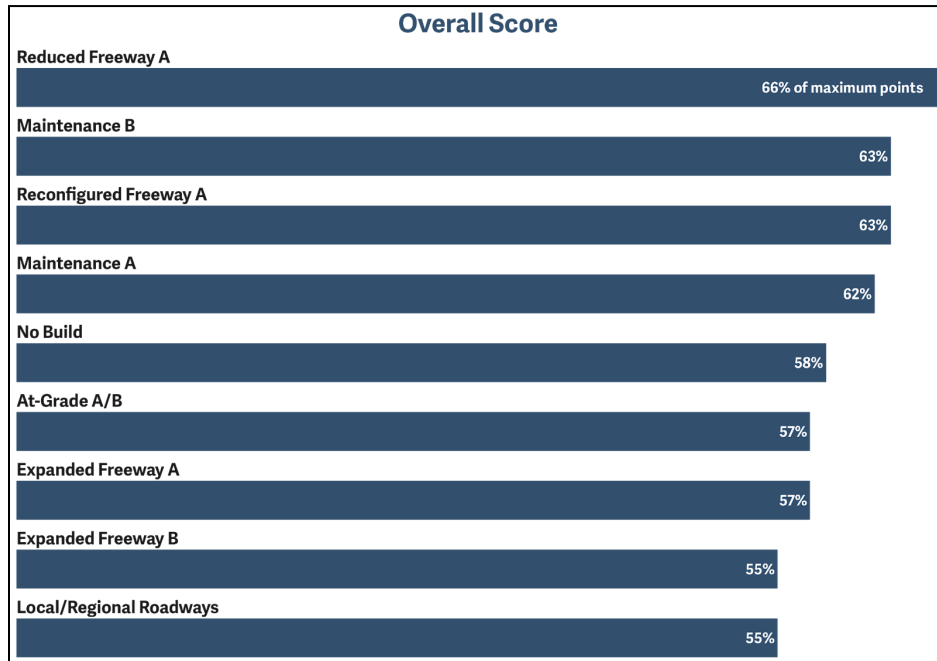


Figure 2. Composite Score for I-94 Alternatives based on MnDOT's Analysis

Within the Goals and Livability section, Reduced Freeway A scores the highest with 93% of maximum points available within this domain, followed closely by At-Grade and Reconfigured Freeway A alternatives. Maintenance, Expanded Freeway, Local/Regional Roadway, and No Build options score the lowest according to MnDOT's evaluation (Figure 3).

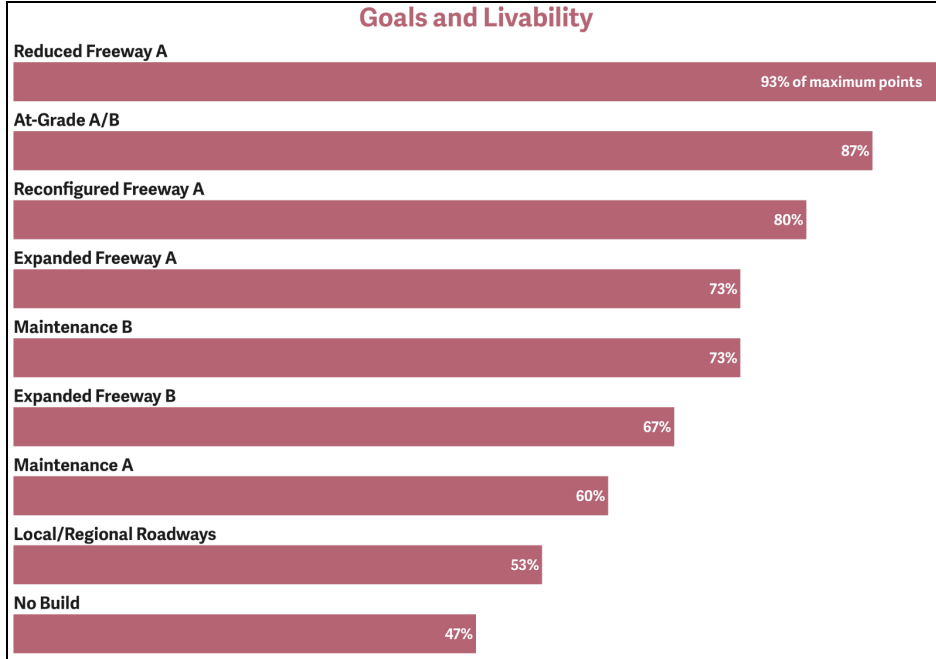


Figure 3. Goals and Livability Score for I-94 Alternatives based on MnDOT’s Analysis

Within the Project Needs section, Expanded Freeway A and Reconfigured Freeway A scored the highest with 100% of maximum points available within this domain. The At-Grade, Maintenance, and No Build options scored lowest on project needs according to MnDOT’s evaluation (Figure 4).

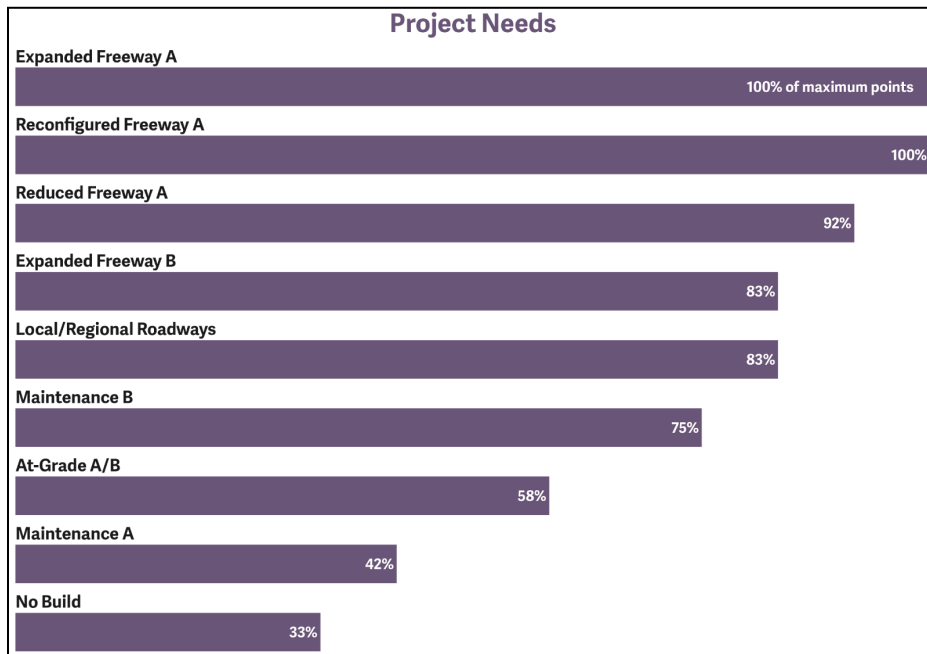


Figure 4. Project Needs Score for I-94 Alternatives based on MnDOT’s Analysis

Within the Social, Economic, and Environmental Impacts section, Maintenance A and No Build scored the highest with 100% of maximum points available within this domain. The At-Grade, Local/Regional, and Expanded Freeway options scored lowest on social, economic, and environmental justice impacts according to MnDOT’s evaluation (Figure 5). MnDOT has [recognized](#) the transgressions committed by the introduction of I-94 in the 1960’s. Their scoring for impacts on social, economic, and environmental impacts suggests that they still prioritize the status quo over these concerns, as noted by Maintenance and No Build options scoring the highest.

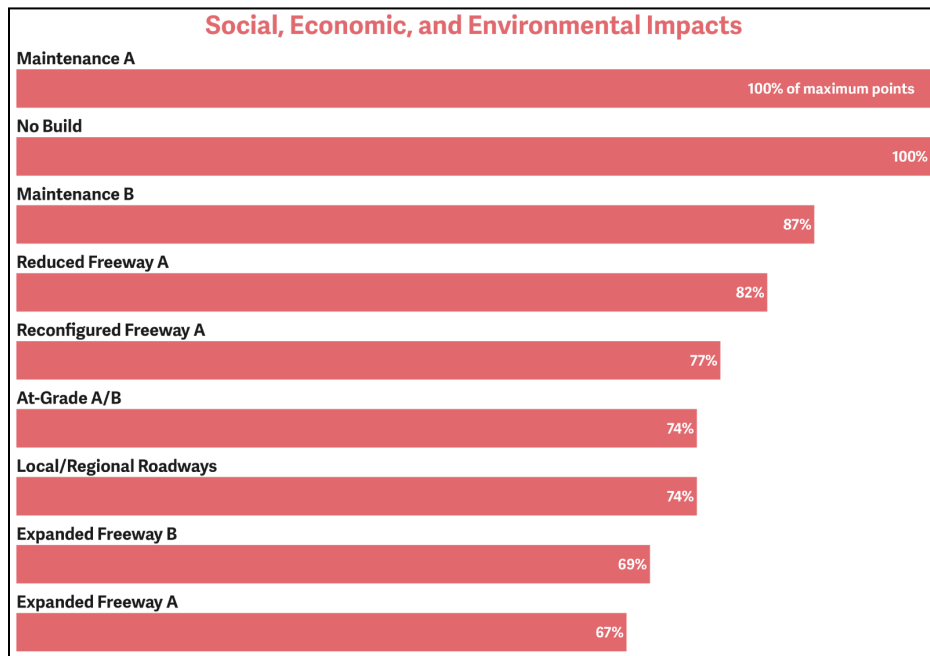


Figure 5. Social, Economic, and Environmental Impacts Score for I-94 Alternatives based on MnDOT’s Analysis

Removed Alternatives

Recent [news](#) regarding the proposed elimination of certain alternatives provides a unique opportunity to further understand how MnDOT is evaluating the proposed alternatives. Although poorly communicated, it appears as though the alternatives that were removed include the At-Grade, Local/Regional, and Expanded Freeway options. Figure 6 below outlines the same plots as above but with the removed options highlighted. Although the charts in Figure 6 would suggest consistency with their decisions to advance those options that meet most of the project goals, the following sections reveal inconsistencies and biases that selectively elevate certain alternatives over others.

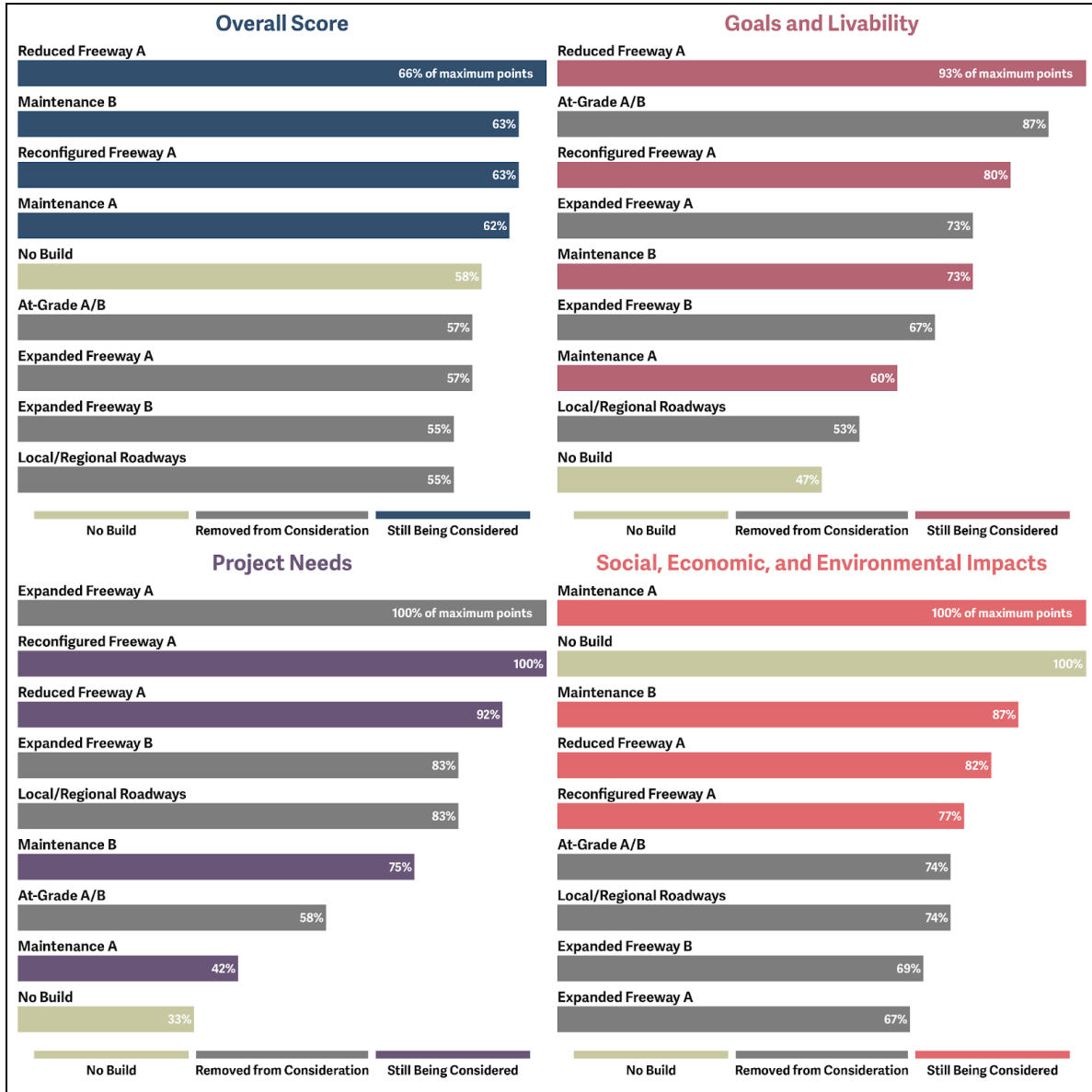


Figure 6. Removed alternatives from Rethinking I-94 consideration. These charts are the same as Figures 2-5 but highlight the options that are being removed. The bars in grey are the alternatives that were removed from consideration, whereas the bars in the respective colors are the alternatives that will likely move onto the next phase. The top left panel shows MnDOT’s elimination of the alternatives that scored the lowest.

Evaluation of MnDOT’s Alternative Grading

Generally, we identified several themes that question the thoroughness and legitimacy of MnDOT’s evaluation and grading of the proposed alternatives. Specifically, we found that MnDOT has internal inconsistencies in findings as well as interpretation of findings, inconsistencies in level of evaluation details across alternatives, and is missing many critical measures for evaluating the potential

alternatives. A comprehensive list detailing many examples can be found at the end of this report, however we summarise a few below.

One of the most fundamental limitations about MnDOT's assessment is that they evaluate the proposed options using a framework that grades the alternatives on how good they are at *being a highway*, clearly favoring options that prioritize automobile throughput. For example, MnDOT uses metrics such as travel time, vehicle hours travelled, person hours travelled, speed, and access points to the highway to evaluate the alternatives. Not only are these mobility metrics narrow and car-centric, but they inherently prioritize speed which biases any evaluation to alternatives that minimize time on the highway, such as freeway expansion. The evaluation framework used presents a clear bias by MnDOT against certain alternatives over others, and calls into question the methods and findings of the scored alternatives.

MnDOT outlines the federal guidelines that require them to study the No Build/General Maintenance option and serve as the default option to the other alternatives. However, we believe that treating the current layout as the default has the unintended consequence of naturalizing current conditions. MnDOT outlines how the current freeway layout (No Build alternative) scores the highest across all Social, Economic, and Environmental measures, including environmental justice, noise pollution, and even air quality. By stating that "The no build alternative would not result in any new SEE impacts based on the measures included in this Evaluation", they reify that any changes to the current conditions, including positive impacts, are unacceptable and will be penalized. Their analysis assumes the current conditions are the best for environmental justice. Benchmarking the current freeway configuration raises serious concerns because it inherently prioritizes projects that don't change from the current layout, challenging the entire premise of the "Rethinking" aspect of the project. MnDOT is assessing the degree of project goal/need conformity in relation to the No Build option, rather than what is needed to seriously address our climate crisis, public health insecurity among residents of the corridor, deepening environmental justice impacts, among many other considerations.

The focus of this report is not on the many flawed assumptions or model estimates (which you can read about [here](#) and [here](#)). However, we do want to highlight the conservative nature of the project goals (Table 1). MnDOT estimates that only 2% of people that currently travel on the I-94 corridor use public transit. Facing such a metric, one would hope that MnDOT develops options that not only increase the number of riders using transportation but also the proportion of daily I-94 riders that use public transit. Among the alternatives, as modeled by MnDOT, the Reduced Freeway option has the most ambitious public transportation expansions yet only increases daily throughput on public transportation by 570 more people, making up 2.4% of all daily I-94 users. In comparison, the alternative with the most ambitious expansion of automobile use, Expanded Freeway B, estimates increases of daily throughput by 31,000 people per day, making up 98% of all daily I-94 users. Setting aside the aforementioned modeling errors, none of these alternatives should move forward because they all fail to meaningfully increase corridor throughput by public transportation, a key strategy to reduce VMT and address climate change considerations.

I-94 Alternative Modeling Estimates						
Comparing Alternatives to the No Build Option						
ALTERNATIVE	ALTERNATIVE ESTIMATES (PEOPLE/DAY)			DIFFERENCE FROM NO BUILD (% CHANGE)		
	TOTAL	AUTO	TRANSIT	TOTAL	AUTO	TRANSIT
NO BUILD - GENERAL MAINTENANCE	426,000	418,000	8,480	0 (0.0%)	0 (0.0%)	0 (0.0%)
MAINTENANCE A	426,000	418,000	8,480	0 (0.0%)	0 (0.0%)	0 (0.0%)
MAINTENANCE B	425,000	418,000	7,150	-1,000 (-0.2%)	0 (0.0%)	-1,330 (-15.7%)
AT-GRADE A/B	219,000	211,000	7,640	-207,000 (-48.6%)	-207,000 (-49.5%)	-840 (-9.9%)
LOCAL/REGIONAL ROADWAYS*	337,000	330,000	7,150	-89,000 (-20.9%)	-88,000 (-21.1%)	-1,330 (-15.7%)
REDUCED FREEWAY A**	376,000	367,000	9,050	-50,000 (-11.7%)	-51,000 (-12.2%)	570 (6.7%)
RECONFIGURED FREEWAY A**	447,000	438,000	8,860	21,000 (4.9%)	20,000 (4.8%)	380 (4.5%)
EXPANDED FREEWAY A	458,000	449,000	8,860	32,000 (7.5%)	31,000 (7.4%)	380 (4.5%)
EXPANDED FREEWAY B	452,000	445,000	7,020	26,000 (6.1%)	27,000 (6.5%)	-1,460 (-17.2%)

*4AP option was used. **Most ambitious public transportation model estimates were used.

Table 1. MnDOT’s modeled estimates for corridor throughput (people per day).

Inconsistencies

MnDOT is inconsistent throughout their scoring of alternatives. They selectively highlight or omit information which inaccurately classifies the alternatives. Lower vehicle throughput, for example, is only ever considered when it is detrimental to project goals. When MnDOT assesses mobility for people in vehicles, they penalize the at-grade options for having lower car throughput. But they fail to cite any positive impacts that lower car throughput would have in their assessment of air quality and noise pollution. MnDOT does this despite using the lower estimated throughput for the Reduced Freeway alternative as a justification to rank it high as improving noise pollution.

Furthermore, many of the alternatives do not change the current conditions and yet are given a score instead of a neutral rating. Instead of assigning “no change” to its own category, MnDOT scores these on an arbitrary basis. This was also noted by internal MnDOT staff as well (comments on the Mainline Summary tab include: “How do the remaining alternatives meet purpose and need when there is no change to walkability and bikeability? Isn't the goal to improve walkability and bikeability? Seems like an additional color coded category is needed for no change compared to no build.”).

Despite this omission, the “no change” assumptions are inconsistently scored as both a benefit and a detriment. Indeed, there are times in which MnDOT rates no changes as a green rating (generally meaning the best) and other times a red or yellow score (generally meaning worse). For example, MnDOT scored the No Build/General Maintenance option as a green when evaluating the impacts of noise polluting, air quality, and environmental justice; a yellow when evaluating economic vitality; and a red when evaluating walkability and bikeability. These inconsistencies are even more puzzling when we review the limited justification to the scoring methods. Those justifications, found on the Summary Code tab, describe how “No walkability/bikeability improvements” merits a score of red in the Project Needs section; “No change in access to land use” merits a score of green in the Social, Economic, and Environmental section; and “No Build” merits an inconsistent score of yellow and red in the Goals and Livability section.

Missing Metrics

We found many criteria and metrics missing from the evaluation criteria. Some of them include broad considerations for public health. The grading document mentions health or public health only twice, once in the context of noise pollution, and the other in assessing whether alternatives will “improve quality of life, well-being, and the environment through green spaces and land use”. The Minnesota Department of Health (MDH) has [resources](#) and staff available that MnDOT could consult with to design key public health metrics that would comprehensively evaluate the proposed alternatives. Furthermore, MDH could design a Health Impact Assessment to better understand the public health ramifications of the alternatives, as [Wilder Research and others have done](#) in the past with Rondo Landbridge options. We want to emphasize the importance of additional public health considerations such as opportunities for active transport, exposure to environmental pollution, downstream impacts on chronic disease such as COPD, diabetes, asthma, or cardiovascular disease, decreased noise pollution, and fewer road collisions and injuries. These are some of the many public health benefits that should also be used to evaluate proposed alternatives. The World Health Organization has an extensive [report](#) on many of these considerations that MnDOT could emulate.

We also found MnDOT’s measures to be insufficient in their Social, Economic, and Environmental Justice impacts. The metrics MnDOT’s uses to assess this area are significantly limiting and miss critical assessments on the potential for gentrification, expanding housing supply, creation of local jobs, expanding city tax base, and reconnecting communities. Furthermore, MnDOT relies on vague qualitative assessments that use a binary Yes or No response to evaluate EJ priorities. These require little justification compared to more robust measures that thoroughly gauge the inequitable impact of freeway exposure to primarily BIPOC and low-income Minnesotans. Many of these considerations would naturally overlap with a more robust public health assessment.

Similarly, most of the Project Need indicators (70%) are geared towards assessing the mobility for people in motorized vehicles, while only 10% assess their safety. Only 10% of project need indicators assess walkability and bikeability, neither of which evaluates the safety of said pedestrians. Although conflict points are mentioned, they are solely mentioned in the context of pedestrian exposure to vehicles in the At-Grade alternatives, and not in any of the other alternatives that suggest increasing the number of crossings which would also increase the number of conflict points. This selectivity makes it seem as though there is no way to design an At-Grade road that still prioritizes pedestrian safety and reduction in conflict points, when in reality MnDOT has been successfully prioritizing possible solutions for many years, such as [roundabouts](#). This omission of evaluation metrics further shows the bias in design decisions made by MnDOT to evaluate these alternatives.

Critically, MnDOT does not use a single metric that explicitly evaluates accessibility issues that many people with disabilities face in the current layout. Although improving sidewalks certainly helps improve accessibility, MnDOT’s omission relegates accessibility as an afterthought rather than a central component of Rethinking I-94. There are many considerations that could be implemented to center accessibility into the Rethinking I-94 project. We have personally found [this report](#) to be extremely helpful in learning about many considerations, including following principles of universal design. The report details that “inclusive, transit-oriented land use planning brings together key destinations for daily, weekly, and monthly needs for any given person in a city with the knowledge that these goods and

services may be more frequently needed by people with disabilities” (pg. 10). A key metric to be included in any assessment of the proposed alternatives should be to estimate the extent to which the proposed alternatives address this and other accessibility needs and to directly engage with disabled communities for their feedback and guidance.

Conclusion

This report details the metrics and interpretations that MnDOT presents in evaluating the 10 alternatives for the Rethinking I-94 project. We find MnDOT’s evaluation is inconsistent and missing key measures that should be prioritized in this project including public health, environmental justice, and accessibility for people with disabilities. We found that MnDOT did not fairly evaluate all 10 alternatives. Perhaps most importantly, we highlight the project’s shortsightedness in imagining neighborhoods where people can thrive and commune together, and where environmental justice and health equity are prioritized. Given the degree of changes needed to seriously address climate change, Minnesotans rightfully deserve a project that takes bold action and lives up to its namesake.

Detailed Findings

Project Needs

- 14/20 (70%) of the project need indicators are geared towards assessing mobility for people in motorized vehicles while only 2/20 (10%) assess their safety
- Only 2/20 (10%) of the project need indicators assess walkability and bikeability, neither of which evaluates the safety of said pedestrians
- MnDOT outlines that there will be no additional transit stations accessible to pedestrians or bicyclists for any of the alternatives (including the at-grade options)
 - This point is contradicted by MnDOT's own disclosure of new BRT stations across many of the alternatives
- Compared to the No Build option, MnDOT outlines that the at-grade options would increase crashes: "Net expected fatal and serious injury crashes/day on the mainline and routes within one mile combined would increase compared to the no build." (Table 2)
- MnDOT outlines different level of details in number of crash scenarios between different alternatives and is inconsistent in their interpretation (Table 2)
 - Some of the scenarios under Local/Regional Roadways significantly increase crash rates compared to the No Build/General Maintenance option whereas others decrease it.
 - Only one modeling scenario was used for the at-grade option compared to the local regional roadways option.
 - Both at-grade options are treated identical despite their differences, whereas both expanded alternatives are modeled independently.
 - The crash data for expanded freeway A, B, and Maintenance B options are almost identical, yet MnDOT interprets some as increasing crash rate compared to no build but others as decreasing it.
- MnDOT outlines land use scenarios that do not match alternative expectations and have biased interpretations of their findings (Table 3)
 - MnDOT exceptionalizes certain options that don't increase land use. For example, despite the local/regional roadways decreasing access and connectivity to I94, they elaborate much more than other alternatives to potentially justify its adherence to project goals by using phrases like "however, overpasses would generally remain".
 - MnDOT assumes that expanding highways would not change access to land use, despite more land being used for highways instead of other purposes.
 - MnDOT is evaluating alternatives that would remove a highway (at grade) using highway access points as a metric.
- The transit estimates across all alternatives are only assessed in relation to the No Build option, limiting a more robust evaluation of the alternatives.
 - MnDOT estimates that only 2% of people that currently travel on the I-94 corridor use public transit. Their most ambitious public transit alternative estimates an increase of only 570 more people taking public transit on a daily basis, whereas their most ambitious auto transit alternative estimates an increase of 31,000 people per day.

- The highest proportion of daily ridership through the corridor is outlined by At-Grade options, estimating 3.5% of daily ridership is on public transportation.
- All of these modeled estimates are incredibly low and do not seriously prioritize public transit.
- MnDOT argues that new non-motorized conflict points would be created with at-grade A/B
 - New non-motorized conflict points are likely created in any infrastructure project that incentivizes more pedestrian usage. Although this is expected, there are many different tools available to transportation and traffic engineers and planners to decrease conflict points and their impacts, such as roundabouts.

Table 2. MnDOT’s evaluation and interpretation of crash data for select alternatives

Alternative	Crash comparison to similar facility types	Alternative addresses the number and severity of crashes along the corridor?
At-Grade - B	<p style="text-align: center;"><u>Mainline</u> Crash Rate: 1.87 Total Crashes/day: 0.45 F/A Crash Rate: 3.226 F/A Crashes/day: 0.008</p> <p style="text-align: center;"><u>Routes within 1-Mile</u> Total Crashes/day: 3.67 F/A Crashes/day: 0.059</p>	<p>No - Net expected fatal and serious injury crashes/day on the mainline and routes within one mile combined would increase compared to the no build.</p>
Maintenance - B	<p style="text-align: center;"><u>Mainline</u> Crash Rate: 0.926 Total Crashes/day: 1.08 F/A Crash Rate: 0.66 F/A Crashes/day: 0.008</p> <p style="text-align: center;"><u>Routes within 1-Mile</u> Total Crashes/day: 3.65 F/A Crashes/day: 0.056</p>	<p>Yes - Widening the right shoulder is associated with a reduction in crashes of all types and severities. -Widen shoulder by 1 ft (CMF ID 8342) -Increase shoulder width from 10 ft to 12 ft (CMF ID 5509)</p>
Local/Regional Roadways - A	<p style="text-align: center;"><u>Mainline</u> Crash Rate: 0.926 Total Crashes/day (4 AP): 0.64 Total Crashes/day (3 AP): 0.63 F/A Crash Rate: 0.66 F/A Crashes/day (4 AP): 0.005 F/A Crashes/day (3 AP): 0.004</p> <p style="text-align: center;"><u>Routes within 1-Mile</u> Total Crashes/day (4 AP): 3.77 Total Crashes/day (3 AP): 3.83 F/A Crashes/day (4 AP): 0.059 F/A Crashes/day (3 AP): 0.06</p>	<p>Yes - In the 4 access pt scenario, net expected fatal and serious injury crashes/day on the mainline and routes within one mile combined would decrease compared to the no build.</p>

Expanded Freeway - A	<u>Mainline</u> Crash Rate: 0.926 Total Crashes/day: 1.21 F/A Crash Rate: 0.66 F/A Crashes/day: 0.009 <u>Routes within 1-Mile</u> Total Crashes/day: 3.63 F/A Crashes/day: 0.055	Yes - Net expected fatal and serious injury crashes/day on the mainline and routes within one mile combined would decrease compared to the no build.
Expanded Freeway - B	<u>Mainline</u> Crash Rate: 0.926 Total Crashes/day: 1.20 F/A Crash Rate: 0.66 F/A Crashes/day: 0.009 <u>Routes within 1-Mile</u> Total Crashes/day: 3.67 F/A Crashes/day: 0.056	No - Net expected fatal and serious injury crashes/day on the mainline and routes within one mile combined would increase compared to the no build.

Table 3. MnDOT’s evaluation and interpretation of land use for select alternatives

Alternative	Qualitative Assessment - Does the alternative increase access to land use?
No Build - General Maintenance	Existing access locations would be maintained. No change in access to land use.
Maintenance A/B	Existing access locations would be maintained. No change in access to land use.
At-Grade A/B	12 new at-grade access locations would be added to the new roadway.
Local/Regional Roadways - A	5 or 6 access locations would be removed, however overpasses would generally remain. Distance to access I-94 would increase for some trips, however connectivity across I-94 would increase in areas where ramps are removed but overpasses are maintained.
Reduced/Reconfigured Freeway	Existing access locations would be maintained. No change in access to land use.
Expanded Freeway A/B	Existing access locations would be maintained. No change in access to land use.

Table 4. MnDOT’s modeled estimates of person throughput

Alternative	Person Throughput (people/day)
No Build - General Maintenance	Total: 426,000 Auto: 418,000 Transit: 8,480

Maintenance - A	Total: 426,000 Auto: 418,000 Transit: 8,480
Maintenance - B	Total: 425,000 Auto: 418,000 Transit: 7,150
At-Grade A/B	Total: 219,000 Auto: 211,000 Transit: 7,640
Local/Regional Roadways - A	Total (4 AP): 337,000 Total (3 AP): 315,000 Auto (4 AP): 330,000 Auto (3 AP): 308,000 Transit (Both): 7,150
Reduced Freeway - A	Total: 376,000 Auto: 367,000 Transit: 8,980-9,050
Reconfigured Freeway - A	Total: 447,000 Auto: 438,000 Transit: 8,800-8,860
Expanded Freeway - A	Total: 458,000 Auto: 449,000 Transit: 8,800-8,860
Expanded Freeway - B	Total: 452,000 Auto: 445,000 Transit: 7,020

Social, Economic, and Environmental Impacts

- MnDOT outlines how every alternative option being considered will increase noise pollution and increase stormwater runoff within EJ communities. MnDOT also exceptionalizes certain alternatives by using inflammatory language.
 - For example the at-grade options would bring “Major” changes in vertical alignment which could potentially increase noise pollution. Comparatively, the expanded freeway options don’t include such language. Consistency in rhetoric would highlight how “Major” changes in land use, traffic volume, and proximity to roadways would also have the potential to increase noise pollution.
- MnDOT uses flawed assumptions about noise pollution, as noted internally by MnDOT staff.
 - A comment left in the at-grade options, which scored the lowest in impact for noise pollution, reads as follows: “There is no acknowledgement of the decrease in impervious surface in At-Grade A and B alternatives. Continue to question the expectation of increased noise pollution, given the decrease in speeds, number of freight, and traffic

volume; all noted by AASHTO and referencing FHWA guidance: [Traffic Noise Overview | Center for Environmental Excellence | AASHTO \(transportation.org\)](#)”

- Although it’s unclear what MnDOT means by “relocation potential”, MnDOT further exceptionalizes some alternatives over others.
 - For example, even though all the alternatives have “limited relocation potential within EJ communities”, the Reduced and Reconfigured options as well as Expanded freeway A highlight potential options for expanded relocations, whereas other alternatives, like at-grade, do not highlight the potential for related relocations or even expanded properties in EJ areas.
- MNDOT is inconsistent in their evaluation of impact to historic properties (Table 5).
 - For example, the at-grade options which remove highway land would pose a “Moderate” potential to impact known historic properties, but the expanded freeway options, which would expand the highway, would pose “Low” potential to impact known historic properties.
- MNDOT is inconsistent when interpreting the impact on noise pollution, air quality, and threatened or endangered species and selectively adds additional information when it supports certain alternatives (Table 6)
 - MNDOT estimates the at-grade options will reduce daily person throughput by 49% (reduction from 426,000 people/day to 219,000) but omits this consideration when evaluating the impact of noise pollution.
 - MNDOT did however mention that the Reduced Freeway alternative would not impact noise pollution because the “total number of travel lanes would decrease” (Table 6)
 - MNDOT mentioned how the addition of traffic under expanded freeway options would potentially impact air quality but omits their modeled estimates of decreased traffic when assessing the impacts of at-grade options on air quality.
 - In short, if increased traffic worsens air quality, then decreased traffic should have the opposite effect, and yet it doesn’t according to MNDOT.
 - MNDOT outlines how expanding the highway or reducing the highway would both impact threatened and endangered species but keeping the highway as it would not impact these species, which doesn’t make much sense intuitively. This also reifies how MNDOT naturalizes the current environment as being the best possible reality.
- MNDOT argues that Expanded freeways A/B have “no change in access to land use” even though they literally require more land to be used for highways instead of other community amenities.

Table 5. MNDOT’s evaluation and interpretation of impact to historic sites

Alternative	Potential for adverse effect to known historic properties	Potential for adverse effect to known or suspected cemeteries
No Build - General Maintenance	Low	Low
Maintenance - A	Low	Low

Maintenance - B	Low	Low
At-Grade - A	Moderate	Low/Moderate
At-Grade - B	Moderate	Low/Moderate
Local/Regional Roadways - A	Low/Moderate	Moderate
Reduced Freeway - A	Corridor: Low BRT Station Areas: Low	Corridor: Low BRT Station Areas: Low to Moderate
Reconfigured Freeway - A	Corridor: Low BRT Station Areas: Low	Corridor: Low BRT Station Areas: Low to Moderate
Expanded Freeway - A	Corridor: Low BRT Station Areas: Low	Corridor: Moderate BRT Station Areas: Moderate
Expanded Freeway - B	Low	Moderate

Table 6. MnDOT's evaluation and interpretation of noise pollution, air quality, and impact on threatened or endangered species.

Alternative	Will the project cause a material change in horizontal and/or vertical alignment or add travel lanes?	Is the project considered regionally significant for air quality concerns or will the project have a meaningful impact on traffic volumes or vehicle mix?	Does the project have the potential to impact threatened and endangered species?
No Build - General Maintenance	No	No	No
Maintenance - A	No	No	No
Maintenance - B	No	No	Yes
At-Grade - A	Yes - Major change in vertical alignment will reduce distance between traffic and noise sensitive receptors and potentially increase area of traffic noise impacts.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt.	Yes
At-Grade - B	Yes - Major change in vertical alignment will reduce distance between traffic and noise sensitive receptors and potentially increase area of traffic noise impacts.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt.	Yes
Local/Regional Roadways - A	Yes - Potential to increase traffic volumes on local system adjacent to existing at-grade land uses.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt.	Yes
Reduced Freeway - A	No - Total number of travel lanes would decrease.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt.	Yes

Reconfigured Freeway - A	Yes - One travel lane would be added for short segments that currently have 3 travel lanes.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt.	Yes
Expanded Freeway - A	Yes - Total number of travel lanes would increase.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt. Would add travel lanes for over one mile and potentially increase traffic volumes on I-94.	Yes
Expanded Freeway - B	Yes - Total number of travel lanes would increase.	Yes - Project meets the definition of a regionally significant project and would not be classified as exempt. Would add travel lanes for over one mile and potentially increase traffic volumes on I-94.	Yes

Goals and Livability

- MnDOT’s analysis uses narrow economic vitality metrics with flawed assumptions that bias findings for highway expansions alternatives
 - At-grade options would likely create significant local economic opportunities that would be accessible to people within a 30-minute travel time but aren’t modeled by MnDOT.

Table 7. MnDOT’s evaluation and interpretation of economic vitality.

Alternative	Employment opportunities (jobs) accessible within 30-minute travel time	
	Auto	Transit
No Build - General Maintenance	AM Peak: 1,682,013 (+0%) PM Peak: 1,455,296 (+0%)	76,550 (+0%)
Maintenance - A	AM Peak: 1,682,013 (+0%) PM Peak: 1,455,296 (+0%)	76,550 (+0%)
Maintenance - B	AM Peak: 1,682,013 (+0%) PM Peak: 1,455,296 (+0%)	81,300 (+6.2%)
At-Grade A/B	AM Peak: 1,613,242 (-4.1%) PM Peak: 1,356,985 (-6.8%)	82,000 (+7.1%)
Local/Regional Roadways - A	3 Access Pts AM Peak: 1,638,514 (-2.6%) PM Peak: 1,422,668 (-2.2%) 4 Access Pts AM Peak: 1,639,876 (-2.5%) PM Peak: 1,463,511 (+0.6%)	81,300 (+6.2%)

Reduced Freeway - A	AM Peak: 1,650,318 (-1.9%) PM Peak: 1,452,791 (-0.2%)	BRT - 0: 81,700 (+6.7%) BRT - 1: 82,300 (+7.5%) BRT - 3: 83,100 (+8.6%)
Reconfigured Freeway - A	AM Peak: 1,680,396 (-0.1%) PM Peak: 1,451,027 (-0.3%)	BRT - 0: 81,700 (+6.7%) BRT - 1: 82,300 (+7.5%) BRT - 3: 83,100 (+8.6%)
Expanded Freeway - A	AM Peak: 1,746,908 (+3.9%) PM Peak: 1,463,195 (+0.5%)	BRT - 0: 81,700 (+6.7%) BRT - 1: 82,300 (+7.5%) BRT - 3: 83,100 (+8.6%)
Expanded Freeway - B	AM Peak: 1,725,568 (+2.6%) PM Peak: 1,476,268 (+1.4%)	81,300 (+6.2%)

MnDOT's Evaluation Criteria for I-94 Alternatives

There are three broad areas MnDOT uses for consideration: 1) project needs, 2) social, economic, and 3) environmental impacts, and goals and livability. There is a supplemental section that evaluates additional considerations such as construction and maintenance cost, which are largely empty. Some of these considerations are Qualitative Assessments (QA) that gauge whether or not the alternative meets that consideration. Most considerations are metrics that are evaluated against the No Build/General Maintenance option as the default option. Within each area of consideration, there are various supplemental considerations used to evaluate the alternatives on. These are structured in the following way:

Project Needs:

- Walkability and Bikeability - comfort, mobility, and risks for people walking, bicycling, and rolling (non motorized connectivity and performance)
 - Distance between crossings
 - Travel Time between Origin-Destination Pairs (within identified travelsheds)
- Safety for people in motorized vehicles - cars, freight, and transit (network crashes)
 - QA: Alternative addresses the number and severity of crashes along the corridor?
 - Crash comparison to similar facility types
- Infrastructure Condition - state of repair (pavement and bridge conditions)
 - QA: Does the alternative address pavement conditions?
 - QA: Does the alternative address bridge conditions?
- Mobility for People in Motorized Vehicles - cars, freight, and transit (systemwide mobility, corridor mobility, corridor throughput, interchange area mobility, interchange area throughput, freight mobility, travel time reliability, connectivity, transit mobility, transit reliability)
 - Vehicle Hours Traveled Daily
 - Person Hours Traveled Daily
 - Mainline Speed (average over corridor)
 - Person throughput (people/day)
 - Vehicle Hours Traveled Daily in Interchange Area
 - Person Hours Traveled Daily in Interchange Area
 - Person Throughout (people/day)
 - Freight Travel Times (minutes)
 - Variability of Travel Time
 - Intersection density
 - QA: Does the alternative increase access to land use?
 - Transit travel times in the corridor (minutes)
 - Transit travel times in interchange area (minutes)
 - Variability in Transit Travel Times

Social, Economic, and Environmental Impacts:

- Environmental Justice - potential for disproportionately high and adverse effects on EJ population
 - QA: Does the alternative provide access to economic opportunities and other daily needs for EJ populations?
 - QA: Does the alternative have the potential to increase exposure to water and noise pollution for EJ populations?
 - QA: Relocation potential for EJ populations?
- Historic /Archaeological/Cemetery - potential to affect known historic properties, potential impact to known or suspected cemeteries
 - QA: Low, Moderate, or High potential for adverse effect to known historic properties
 - QA: Low, Moderate, or High potential for adverse effect to known or suspected cemeteries
- Section 4(f) - potential impact to resource (see [DOT](#) for information on 4f cultural resources)
 - Number of Section 4(f) resources impacted
- Section 6(f) - potential impact to resource (see [DOT](#) for information on 6f land water resources)
 - Number of Section 6(f) resources impacted
- Contaminated Properties - impact to sites with potential for hazardous materials
 - Number of known contaminated sites impacted
- Right of Way - adjacent property impacts
 - Acreage of impacts anticipated number of property relocations
- Noise - potential impact to public health and welfare from traffic related noise pollution
 - QA: Will the project cause a material change in horizontal and/or vertical alignment or add travel lanes?
- Water Pollution/Stormwater - impervious surface area
 - Acreage
- Air Quality - potential impact to resource
 - QA: Is the project considered regionally significant for air quality concerns or will the project have a meaningful impact on traffic volumes or vehicle mix?
- Threatened and Endangered Species - potential impact to threatened and endangered species
 - QA: Does the project have the potential to impact threatened and endangered species?
- Wetlands - potential impact to resource
 - QA: Does the alternative have the potential to impact wetlands?
 - Number of wetlands impacted based on National Wetland Inventory?

Goals and Livability:

- Sense of place - opportunities for gathering spaces, cultural and historic representation and art, and green spaces
 - QA: Does the project have the potential to create features or amenities in partnership with communities to enhance sense of place?
- Equity - distribution of transportation resources across communities

- QA: Does the alternative have the potential to enhance transportation choices for individuals?
- Economic vitality - employment opportunities (jobs) accessible within 30-minute travel time
 - Auto
 - Transit
- Public health and the environment
 - QA: Does the alternative have the potential to impact green space or land uses that benefit quality of life and the environment?
- Connectivity - opportunities to use infrastructure to connect communities physically and socially
 - QA: Facilitates or does not eliminate opportunities to implement planned nonmotorized facilities?