



# Southwest Light Rail Transit Construction: Metropolitan Council Decision Making

2023 Evaluation Report

Program Evaluation Division  
**Office of the Legislative Auditor**  
State of Minnesota



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March 2023

Members of the Legislative Audit Commission:

The Southwest Light Rail Transit (LRT) project has drawn attention from legislators, the media, and the general public due to delays and cost overruns. Before the Metropolitan Council started construction in 2019, it estimated Southwest LRT would cost \$2.003 billion in total, and the line would open in 2023. The Council now estimates that it will cost \$2.767 billion to complete and will open in 2027.

In this report—the first of two program evaluations on Southwest LRT we are issuing this year—we find that the Metropolitan Council obligated itself to spend more money on Southwest LRT than the funds committed to the project. Further, the Council did not hold its civil construction contractor accountable for failures to provide an acceptable project schedule. The Council has also not been fully transparent about the project’s delays and cost increases. We have several recommendations for the Council, and we recommend the Legislature create a framework for light rail projects in which the government entity responsible for managing construction also bears some financial responsibility for construction costs and any cost increases.

Our evaluation was conducted by David Kirchner (project manager), Matthew Fahrenbruch, Kaitlyn Schmaltz, and Caitlin Zanoni-Wells. The Metropolitan Council cooperated with our evaluation.

Sincerely,



Judy Randall  
Legislative Auditor



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## Southwest Light Rail Transit Construction: Metropolitan Council Decision Making

As the responsible authority for Southwest Light Rail Transit (Southwest LRT) construction, the Metropolitan Council obligated funds it did not have, did not develop a contingency plan if the funds did not materialize, and was not fully transparent about project costs and delays.

### Report Summary

#### Decision Making and Authority

- Before construction started, the Federal Transit Administration raised concerns about the Metropolitan Council’s ability to cover unexpected cost overruns. (p. 15)
- By early 2022, the Metropolitan Council was obligated to spend more money on Southwest LRT than the funds committed to the project. The Council did not have enough funds to finish the project, and it also did not have enough funds to halt the project. (pp. 15-16)
- Despite knowing that project costs were increasing beyond its available funds, the Metropolitan Council developed no formal contingency plan for temporarily or permanently stopping project work and no estimate of the costs it would incur by doing so. (p. 17)
- Minnesota’s framework for developing light rail projects has created a mismatch between the entities that fund the construction of transit projects and the entities that are responsible for constructing them. (p. 18)

**Recommendation** ► The Legislature should create a framework in which the government entity responsible for light rail transit construction also bears some financial responsibility for construction costs and any potential cost increases. (p. 20)

#### Scheduling and Delays

- The Metropolitan Council solicited bids for the civil construction portion of Southwest LRT with project specifications it knew to be incomplete. (p. 24)
- The Metropolitan Council’s addition of substantial new or changed work after the civil construction bidding process was complete delayed the project schedule and increased costs. (p. 24)

#### Background

The Metropolitan Council is the responsible authority for the Southwest LRT project, a 14.5-mile light rail transit line that will run from downtown Minneapolis to the suburban communities of Eden Prairie, Hopkins, Minnetonka, and St. Louis Park.

At the start of construction, the Council estimated Southwest LRT would cost \$2.003 billion in total, and the line would open in 2023. The Council now estimates that it will cost \$2.767 billion to complete and will open in 2027.

Even after incorporating these additional costs, Southwest LRT is still comparable to other light rail projects nationally on a cost-per-mile basis. However, its cost increases since starting construction are far greater than those experienced by most other projects.

The Office of the Legislative Auditor plans to release a second program evaluation in Spring 2023 that focuses on the Metropolitan Council’s oversight of contractors.

**Recommendation** ► The Metropolitan Council should make greater efforts to avoid introducing major project changes once the competitive bidding process concludes. (p. 26)

- The Metropolitan Council did not hold its civil construction contractor accountable for repeated failures to provide an acceptable project schedule. (p. 27)

**Recommendation** ► On future capital construction projects, the Metropolitan Council should enforce the schedule requirements of the contract. (p. 29)

- The civil construction contractor claimed that construction delays were primarily the responsibility of the Metropolitan Council; the Council eventually agreed. (pp. 29-31)
- The preconstruction engineering analyses performed by Metropolitan Council contractors did not predict the Kenilworth LRT tunnel construction challenges that seriously delayed the project. (p. 31)

**Recommendation** ► The Metropolitan Council should consider additional external reviews for high-risk or high-cost project elements. (p. 33)

## Transparency

- The Metropolitan Council has not been fully transparent about the project’s increasing costs and delays. (p. 35)

**Recommendation** ► For future light rail construction projects, the Legislature should require the Metropolitan Council (or other responsible authority) to inform the Legislature if cost overruns or project delays reach certain thresholds. (p. 38)

- The Metropolitan Council has not adequately communicated to the public the uncertainty surrounding its estimates of future costs. (p. 39)

**Recommendation** ► In its public communications regarding projected cost increases, the Metropolitan Council should more clearly indicate the level of uncertainty surrounding its estimates of future costs. (p. 42)

## Summary of Agency Response

In a letter dated March 13, 2023, Metropolitan Council Chair Charles Zelle wrote that the report “minimizes the Metropolitan Council’s transparency and accountability to our funding partners....” He added that the Council “utilized appropriate contract provisions to...hold the construction contractor accountable to the schedule specifications” and “followed industry best practice” to develop a resequenced project schedule. Nonetheless, Chair Zelle agreed with OLA’s recommendation “to align funding responsibility with the government entity responsible for light rail transit construction.” He also stated that the “Met Council generally agrees with the recommendations regarding scheduling and delays” and has taken steps to address them on other transit projects. “As the regional planning entity and operator of the transit system,” Chair Zelle wrote, “the Met Council, as the report suggests, is a reasonable choice to manage the construction of light rail lines.”

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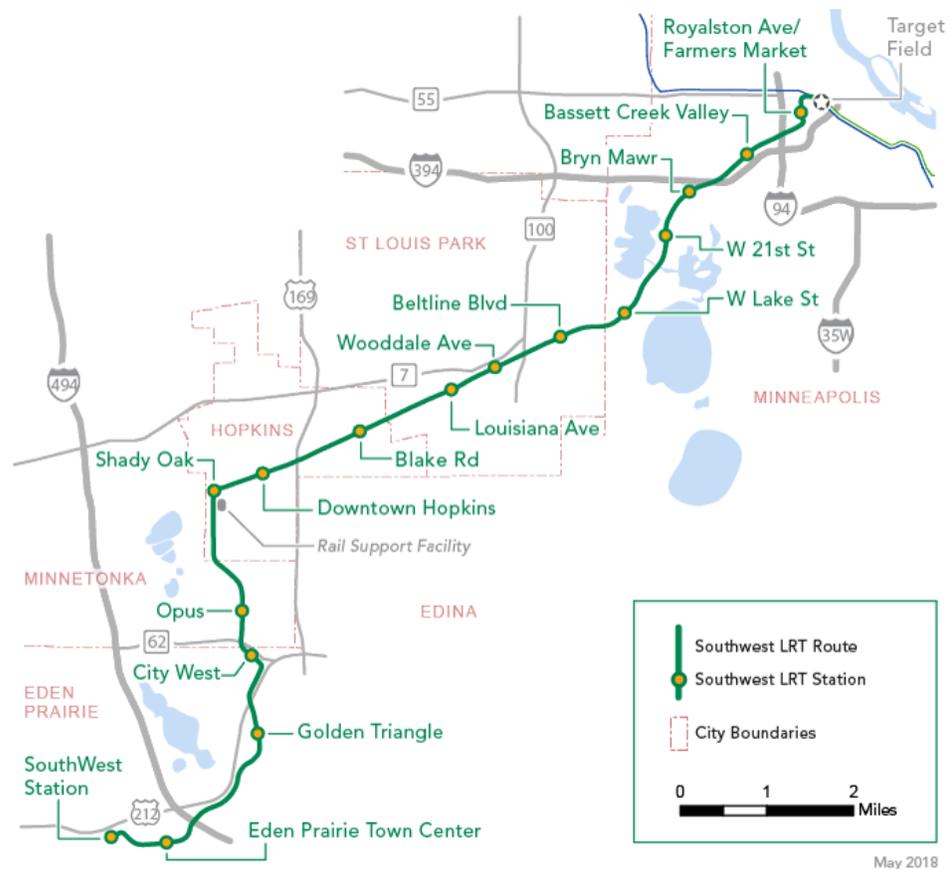


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# Introduction

The Southwest Light Rail Transit (Southwest LRT) line, also known as the Metro Green Line Extension, will run from downtown Minneapolis to the suburban communities of Eden Prairie, Hopkins, Minnetonka, and St. Louis Park. The Metropolitan Council is responsible for building the 14.5-mile project, which includes the construction of 16 new transit stations, 29 new bridges, 2 light rail tunnels, and a variety of other infrastructure elements.<sup>1</sup> Exhibit I.1 shows the route of the Southwest LRT line.

Exhibit I.1  
Southwest LRT Route



Source: Metropolitan Council.

The Southwest LRT project has encountered numerous delays and cost overruns. In response, the Minnesota Legislature directed the Office of the Legislative Auditor (OLA) in March 2022 to “conduct a special review, program evaluation, or a combination of the two, of the Southwest light rail transit project.”<sup>2</sup>

<sup>1</sup> “Metropolitan Council” can refer to the agency as a whole or to its 17-member governing board. In this report, we primarily describe and evaluate the actions of the agency. We refer to the “Metropolitan Council’s governing board” when speaking specifically about the 17-member board.

<sup>2</sup> *Laws of Minnesota 2022*, chapter 39, sec. 1(a).

To address legislators' concerns, our office is producing a series of reports and memos on the Southwest LRT project. In September 2022, OLA published a special review that described the timing and scope of cost overruns and project delays that occurred prior to construction.<sup>3</sup> This report is the first of two program evaluations that will focus on the Metropolitan Council's management of Southwest LRT construction. We have also begun a financial audit of certain Southwest LRT activities, and we may conduct additional work as circumstances warrant.<sup>4</sup>

As encouraged by the law, this program evaluation report addresses:

- How the Metropolitan Council intends to use the additional \$650-\$750 million it has requested to complete the project, and the likelihood that costs will increase beyond that amount.
- The authority and accountability of the Metropolitan Council when building light rail transit projects.
- The Metropolitan Council's efforts to identify, limit, and hold its contractors accountable for schedule delays on the project.
- The extent to which project elements that led to significant cost increases and schedule delays were foreseeable or avoidable.
- The extent to which the Metropolitan Council has been transparent about project changes that have led to increased costs and schedule delays.

To conduct this evaluation, we examined Metropolitan Council policies, resolutions, documents, communications, meeting minutes, presentations, and data. We also reviewed federal laws and guidance; toured the Southwest LRT corridor; and interviewed current and former managers, employees, and contractors that have worked on the Southwest LRT project. Additionally, we spoke with representatives from Hennepin County, the Federal Transit Administration, BNSF Railway, and the Twin Cities & Western Railroad Company.<sup>5</sup> We spoke with engineers at the Minnesota Department of Transportation (MnDOT) who were conducting a parallel peer review of Southwest LRT and consulted a MnDOT economist regarding appropriate inflationary and geographic adjustments for the comparison projects we discuss in Chapter 1.

We will release our second program evaluation in the Spring of 2023. That report will focus more closely on the Metropolitan Council's processes for controlling costs, particularly with respect to project changes and situations where a contractor did not meet contract requirements.

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<sup>3</sup> Office of the Legislative Auditor, Special Review, *Southwest Light Rail Transit: Project Budget and Timeline*, (St. Paul, 2022).

<sup>4</sup> We also published an October 2021 memorandum summarizing a dispute between the Metropolitan Council and the Southwest LRT design contractor, AECOM Technical Services, Inc. Office of the Legislative Auditor, memorandum to Senator D. Scott Dibble and Representative Frank Hornstein, *Southwest Light Rail Project Costs and Management*, October 28, 2021.

<sup>5</sup> BNSF Railway is the name of the company, not an abbreviation.

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# Chapter 1: Background

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Since 2011, the Southwest Light Rail Transit (Southwest LRT) project has encountered numerous issues that have led to budget overruns and project delays. The original 2011 project budget of \$1.25 billion has more than doubled, and the original opening date of 2018 has been pushed back nearly a decade. These changes have led to public scrutiny of the project; legislators have questions about what happened and how similar problems can be avoided on future projects.

In September 2022, our office released a special review that provided detailed information about the Southwest LRT project's history, budget, and timeline.<sup>1</sup> In this chapter, we briefly review the project's history and describe the organization and roles of the project office and the principal contractors. Then we discuss recent developments in the project budget and compare the Southwest LRT project to light rail projects from across the United States.

## Key Findings in This Chapter

- The Metropolitan Council plans to use the additional funding it is seeking primarily for contract renegotiations, contract or service extensions, and additional contingency funds.
- Southwest LRT is comparable to other light rail transit projects nationally on a cost-per-mile basis, but its cost increases during construction have been far higher than most other projects.

## Project History

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After many years of planning, in 2011, the Metropolitan Council received approval from the Federal Transit Administration (FTA) to pursue funding for Southwest LRT through the “New Starts” grant program.<sup>2</sup> In 2011, the Council estimated that the Southwest LRT line would open in 2018 and cost \$1.25 billion to complete.<sup>3</sup> However, as the Metropolitan Council designed the project over the next several years, the cost increased significantly. When the Council awarded the civil construction contract in late 2018, the budget had grown to \$2.0 billion and the opening date had been pushed back to 2023.

After construction began in 2019, contract changes and significant project delays diminished the project's contingency funds and increased its projected costs. In August 2021 and January 2022 statements, the Metropolitan Council revealed that the project's estimated budget would increase by \$650-\$750 million from the budget at the start of

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<sup>1</sup> Office of the Legislative Auditor, Special Review, *Southwest Light Rail Transit: Project Budget and Timeline* (St. Paul, 2022).

<sup>2</sup> The New Starts Capital Investments Grant Program is an FTA program that funds mass-transit projects in the United States. See *Southwest Light Rail Transit: Project Budget and Timeline*, Appendix C, for a detailed overview of the program and its different phases.

<sup>3</sup> Project cost estimates are reported in “year of expenditure dollars,” or the amount of money that the project is expected to cost when accounting for projected future inflation.

construction and that Southwest LRT would not open for service until 2027.<sup>4</sup> By December 2022, the Council had identified about two-thirds of the additional funding it sought and increased the official project budget to \$2.384 billion.<sup>5</sup>

The Council continues to seek funds to close the remaining funding gap of approximately \$272 million, as shown in Exhibit 1.1.

#### Exhibit 1.1

### Timeline of Southwest LRT Cost Changes During Construction

(In billions)

Date	Event	Official Project Budget	Estimated Project Budget
May 2018	The Metropolitan Council's governing body makes the final change to the project's budget before construction starts.	\$2.003	\$2.003
August 2021	Hennepin County contributes an additional \$200 million to the project.	\$2.203	\$2.203
January 2022	The Metropolitan Council announces it will need an additional \$450-\$550 million for Southwest LRT.	\$2.203	\$2.653-\$2.753
March 2022	The Metropolitan Council's governing body shifts \$50 million in federal funds from other uses to the project. Hennepin County contributes an additional \$31 million.	\$2.284	\$2.653-\$2.753
August 2022	The Metropolitan Council provides OLA a listing of how it would use the additional funds it is seeking. The listing plus the amount authorized for a March 2022 settlement agreement with the civil construction contractor total \$764 million.	\$2.284	\$2.767
December 2022	Hennepin County contributes an additional \$100 million. Pending FTA approval, the Metropolitan Council's governing body also votes to shift \$111 million in federal funds from other uses to the project.	\$2.384 (Will be \$2.495 after approval)	\$2.767

Source: Office of the Legislative Auditor, analysis of Metropolitan Council documents.

<sup>4</sup> In August 2021, the Metropolitan Council stated it would need to add \$200 million to the project's budget, and obtained those funds from Hennepin County. In January 2022, the Metropolitan Council announced the project would cost an additional \$450-\$550 million and completion would be delayed until 2027.

<sup>5</sup> The Metropolitan Council's practice has been to increase the official project budget only after it has secured funding. Because the Council is still seeking additional funding, the official budget for the project is currently lower than the project's estimated budget. For a detailed project timeline from 2011-2021, see *Southwest Light Rail Transit: Project Budget and Timeline*, Appendix B.

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## Project Organization

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The Metropolitan Council is a regional government entity created by the 1967 Legislature.<sup>6</sup> By law, the Council's jurisdiction is the seven-county Twin Cities metropolitan area, which includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties.<sup>7</sup> The Metropolitan Council is currently organized into three operational divisions: Community Development (regional development, assistance to local communities, and parks), Environmental Services (wastewater treatment), and Transportation (transit planning and operation of Metro Transit buses and trains). The Council has over 4,000 full-time equivalent employees, approximately 75 percent of whom are connected to Metro Transit bus, light rail, and commuter rail operations.

The Metropolitan Council is governed by a board of 16 members and a chair, all of whom are appointed by the governor. The seven-county region is divided into 16 Metropolitan Council districts, and each member except the chair represents a district.<sup>8</sup> Each Council member serves at the pleasure of the governor, and the terms of Council members end with the term of the governor.<sup>9</sup>

In 2012, Governor Mark Dayton designated the Metropolitan Council as the state's responsible authority for the Southwest LRT project. As the responsible authority, the Council is ultimately responsible for planning, designing, constructing, and equipping the Southwest LRT line. It makes decisions related to project budgets, schedules, contract changes, contract violations, and the overall day-to-day operations of the project.

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### **The Metropolitan Council has contracted with several outside firms to plan, design, and construct Southwest LRT and to assist with day-to-day oversight of the project.**

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The Metropolitan Council is not using its own employees to construct Southwest LRT. Instead, the actual design, engineering, and construction of the project is being performed by several contractors and their subcontractors. The Council maintains a project office to manage and coordinate the work of the various contractors. Most of the project office staff are Metropolitan Council employees, but several project office staff are contractors, and some have been assigned to the project by Hennepin County or the Minnesota Department of Transportation (MnDOT).<sup>10</sup> Exhibit 1.2 identifies the roles of the Council and its primary contractors.

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<sup>6</sup> *Laws of Minnesota 1967*, chapter 896. See *Minnesota Statutes 2022*, chapter 473, for current law establishing the Metropolitan Council's governing structure and responsibilities.

<sup>7</sup> *Minnesota Statutes 2022*, 473.121, subd. 2. The cities of Cannon Falls, Hanover, New Prague, Northfield, and Rockford are excluded from the Metropolitan Council's jurisdiction.

<sup>8</sup> *Minnesota Statutes 2022*, 473.123, subd. 3.

<sup>9</sup> *Minnesota Statutes 2022*, 473.123, subs. 2a and 4(a).

<sup>10</sup> MnDOT and Hennepin County staff in the project office are representatives of, and ultimately responsible to, their respective employers.

### Exhibit 1.2 Project Roles During Construction

Entity	Role
Metropolitan Council	<b>Responsible Authority:</b> Responsible for planning, designing, constructing, and equipping the Southwest LRT line. Maintains the Southwest LRT project office.
AECOM Technical Services, Inc.	<b>Design:</b> Responsible for design of constructed elements of the Southwest LRT line. Provides design and engineering input and support as needed, and estimated costs for proposed contract changes.
Lunda/C.S. McCrossan Joint Venture	<b>Civil Construction:</b> Responsible for construction of the physical infrastructure, including tracks, bridges, tunnels, retaining walls, stations, and parking lots.
Aldridge Parsons Joint Venture	<b>Systems Construction:</b> Responsible for construction of electrically powered project components, such as traction power substations; the overhead contact system; and communications, signaling, and security systems.
Wabtec Corporation	<b>Control Software:</b> Develops communications system and rail control software and integrates them into the existing Metro Transit systems.
Kimley-Horn and Associates, Inc.	<b>Management Support:</b> Assists the Council to oversee and monitor day-to-day field activities. Assists the Council to negotiate contract changes and manage construction- and design-related problems.
Braun Intertec, Inc.	<b>Quality Management:</b> Monitors construction and inspects constructed components to ensure contract requirements have been met.
Venable LLP	<b>Counsel:</b> Assists and advises the Council in negotiations with its contractors. Provides advice on the project budget and schedule.

Source: Office of the Legislative Auditor, analysis of Metropolitan Council documents.

To oversee and manage the project and contractor work, the Metropolitan Council's staff work with staff from MnDOT and Hennepin County, as well as several outside contracted firms, such as Kimley-Horn and Associates, Inc., and Braun Intertec, Inc. These staff assist with the day-to-day oversight and management of the project to ensure the project is constructed according to the various contracts. They also assist the Council with negotiating contract changes, identifying issues, and resolving construction and design problems.

## Increased Costs After the Start of Construction

As explained above, the Metropolitan Council has sought an additional \$650-\$750 million in funding to complete construction of Southwest LRT. In August 2022, the Metropolitan Council provided our office with a detailed listing of the expenses it expected those funds to cover. That listing's estimated additions to the project budget since the start of construction totaled \$764 million, an increase in \$14 million from the highest figure the Council had announced in January 2022.<sup>11</sup>

<sup>11</sup> The Metropolitan Council has yet to adopt an official project budget that incorporates all of these cost increases. After adding new funding sources in December 2022, the Metropolitan Council increased the authorized official budget for the project to \$2.384 billion. The Metropolitan Council's governing body authorized the Council to pay Lunda-McCrossan up to \$210 million in connection with the March 2022 settlement agreement. The \$764 million figure—and the following discussion—assumes that the Council will eventually pay at least the entire \$210 million for settlement agreement costs.

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**The Metropolitan Council plans to use the additional funding it is seeking primarily for contract renegotiations, contract or service extensions, and additional contingency funds.**

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### Contingency Funds

Contingency funds are reserves allocated to cover potential cost increases of a project due to cost and quantity uncertainties, cost overruns, unforeseen or changed conditions or design revisions, or other estimating inaccuracies.

We summarize the information provided to us by the Metropolitan Council in Exhibit 1.3. As of August 2022, the Council expected to allocate about 57 percent of the \$764 million cost increase—or \$436 million—to pay for settlement agreements with the Council’s civil construction and systems contractors and for associated contingency funding. Under these agreements, the Metropolitan Council will provide additional funds for the contractors to (1) work for a longer time to complete the project; (2) resequence the project work so that tasks are accomplished in a different order than originally planned; and (3) address outstanding contract disputes between the Council and the civil construction contractor, Lunda/C.S. McCrossan Joint Venture (Lunda-McCrossan).<sup>12</sup>

The Metropolitan Council reached the first of these settlement agreements with Lunda-McCrossan in March 2022. As of December 2022, the Council was still negotiating agreements with its systems contractors.<sup>13</sup>

The Metropolitan Council’s August 2022 estimate allocated the majority of the contingency funding to cover unforeseen construction costs; for example, it allocated \$60 million for any additional Kenilworth LRT tunnel costs.<sup>14</sup> The Council also forecast it would need \$31 million to replenish its right-of-way contingency funds, which were depleted when the Council drew on them for non-right-of-way uses.<sup>15</sup> The Council added an additional \$50 million of contingency funding to cover sales tax reimbursements in the event the project is deemed ineligible for a sales tax exemption by the Minnesota Department of Revenue.<sup>16</sup>

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<sup>12</sup> Resequencing means to reorganize labor, equipment, and materials to change the order in which project components are built.

<sup>13</sup> We are grouping the systems construction and control software contracts under the general term “systems contracts.”

<sup>14</sup> The Metropolitan Council is building a one-half mile long tunnel to run the Southwest LRT line underground in the Kenilworth neighborhood in Minneapolis between the West 21st Street Station and West Lake Street Station. Building the tunnel will enable the light rail line to avoid conflicting with existing freight and pedestrian/cycle trail traffic in a narrow strip (or “corridor”) of available land.

<sup>15</sup> Southwest LRT project leaders told us that although categories are used to estimate the total amount of contingency funds needed, the contingency funds themselves are fungible and can be used for any purpose. Thus, there was no requirement that the funding the Council had budgeted for right-of-way contingency be used solely for that purpose.

<sup>16</sup> *Minnesota Statutes 2022*, 297A.71, subd. 40, exempts from sales tax material and supplies used for Central Corridor LRT construction. The Metropolitan Council interprets this language to also apply to the Southwest LRT project because the line is an extension of the Central Corridor line, and plans to seek reimbursement for sales taxes paid during Southwest LRT construction. However, as of December 2022, the Minnesota Department of Revenue had not confirmed whether the Council’s interpretation is correct.

## Exhibit 1.3

## Projected Uses of the Additional Funding Being Sought by the Metropolitan Council

Expenses	Amount (in millions)	Percentage
<b>Construction Expenses and Contingency Funds</b>	<b>\$522</b>	<b>68%</b>
<i>Civil Construction/Contingency</i>	\$373	49%
<i>Systems Construction/Contingency</i>	\$63	8%
<i>Sales Tax Contingency</i>	\$50	7%
<i>Right-of-Way Contingency</i>	\$31	4%
<i>Other</i>	\$6	1%
<b>Contract/Service Extensions</b>	<b>\$193</b>	<b>25%</b>
<i>Contractors/Consultants</i>	\$142	19%
<i>Project Office and Staff</i>	\$51	7%
<b>Other Expenses</b>	<b>\$49</b>	<b>6%</b>
<b>Total</b>	<b>\$764</b>	<b>100%</b>

Notes: The Metropolitan Council's governing body authorized the agency to pay Lunda-McCrossan up to \$210 million in connection with the March 2022 settlement agreement. The table above assumes that the Council will eventually pay at least that entire amount. Totals may not sum correctly due to rounding.

Source: Office of the Legislative Auditor, analysis of Metropolitan Council data.

The Metropolitan Council estimated that about 25 percent of the cost increase—or \$193 million—would be used to extend the employment of Southwest LRT project staff; to extend the lease of the Southwest project office; and to extend contracts with, or purchase additional services from, a variety of consultants and firms already working with the Council on Southwest LRT. Due to the project's delayed completion date, the Council will need these services for longer than initially planned. The remaining 6 percent of the cost increase—about \$49 million—would pay for miscellaneous costs not included in previous budgets, including maintenance and site security for completed segments, additional construction vehicles and equipment, and insurance bonds.<sup>17</sup>

As of December 2022, the Metropolitan Council had secured \$381 million of the \$764 million forecasted overrun—\$331 million from Hennepin County and an additional \$50 million in federal funds—leaving about \$383 million of the project's estimated budget unfunded. On December 21, 2022, the Council approved plans to reallocate \$111 million in federal funds already allocated to the Metropolitan Council for other purposes to the Southwest LRT project. This reallocation still needs to be approved by the FTA, but if approved, the forecasted deficit will be reduced to about \$272 million.<sup>18</sup>

<sup>17</sup> Metropolitan Council officials told us that due to the Kenilworth tunnel delays, two large sections on the western half of the project will be completed months before the line opens.

<sup>18</sup> Southwest LRT project leadership told us that the FTA approval process will take four to six months, but that FTA representatives had indicated to the Metropolitan Council that they expect to approve the request.

## National Comparisons

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Like many major light rail construction projects nationally, Southwest LRT is partially funded through the FTA New Starts program. Using FTA reports, we identified 26 other New Starts LRT projects completed since 2003 or currently under construction. Of those projects, we chose 23 to compare to Southwest LRT.<sup>19</sup> While the comparison to the entire group of projects is broadly helpful, each project has had unique construction challenges; no single project is a perfect comparison for Southwest LRT. We provide additional details about the comparison projects in the Appendix.

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**Southwest LRT is comparable to other light rail transit projects nationally on a cost-per-mile basis, but its cost increases during construction have been far higher than most other projects.**

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As shown in Exhibit 1.4, Southwest LRT's adjusted forecasted cost of \$138 million per mile of track is about 6 percent higher than the per-mile median of \$130 million for the comparison New Starts projects.<sup>20</sup> Thus, it is slightly more expensive than most comparison projects, but is far less costly on a per-mile basis than the most expensive projects.

However, Southwest LRT has experienced one of the highest cost increases after the start of construction among the New Starts projects we used for comparison. Using the Metropolitan Council's August 2022 estimate of total project cost (\$2.767 billion), Southwest LRT's final cost will be a 38 percent increase from the budgeted total cost at the start of construction.<sup>21</sup> As shown in Exhibit 1.5, this increase dwarfs the cost increases after the start of construction for nearly all of the New Starts comparison projects, the vast majority of which were completed under budget or approximately at the budgeted amount.<sup>22</sup>

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<sup>19</sup> We excluded three projects from our analysis: Seattle Central Link and Airport Link, Los Angeles Regional Connector, and Pittsburgh NorthShore LRT. These projects have substantial lengths of track running underground or on elevated guideways, and thus their costs are not comparable to the other projects. For similar reasons, we also did not add the Honolulu Rail Transit Project to our analysis.

<sup>20</sup> We adjusted each project's actual or projected dollars-per-mile cost to 2021 Minneapolis dollars to account for inflation and locality cost differences using data from the Bureau of Economic Analysis, the RSMMeans Historical Construction Cost Index, and inflation forecasts from IHS Markit.

<sup>21</sup> We compared the difference between each project's final cost and its estimated cost at the point when each project received its Full Funding Grant Agreement from FTA. The approval of a Full Funding Grant Agreement typically marks the point at which the grantee may use New Starts funds to pay for construction.

<sup>22</sup> Considering only the 16 projects with total adjusted costs or projected costs greater than \$1 billion would produce a chart very similar to Exhibit 1.5. Twelve of the 16 were completed, or were projected to be completed, at or below the budget at the start of construction.

Exhibit 1.4

As currently estimated, Southwest LRT project costs per mile of track are comparable to costs for similar projects.

(In millions of adjusted dollars)

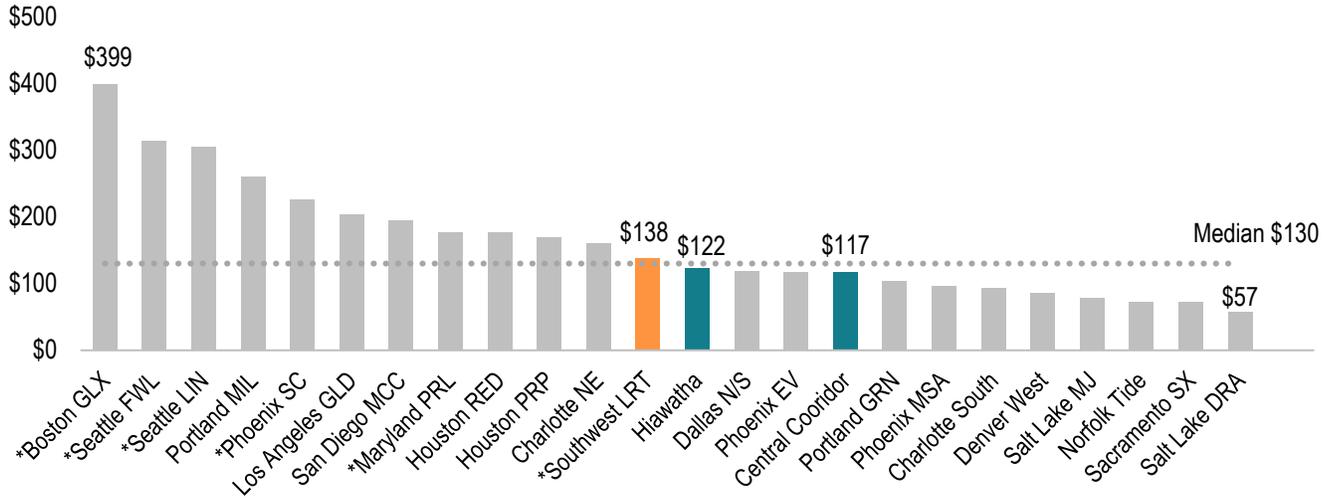
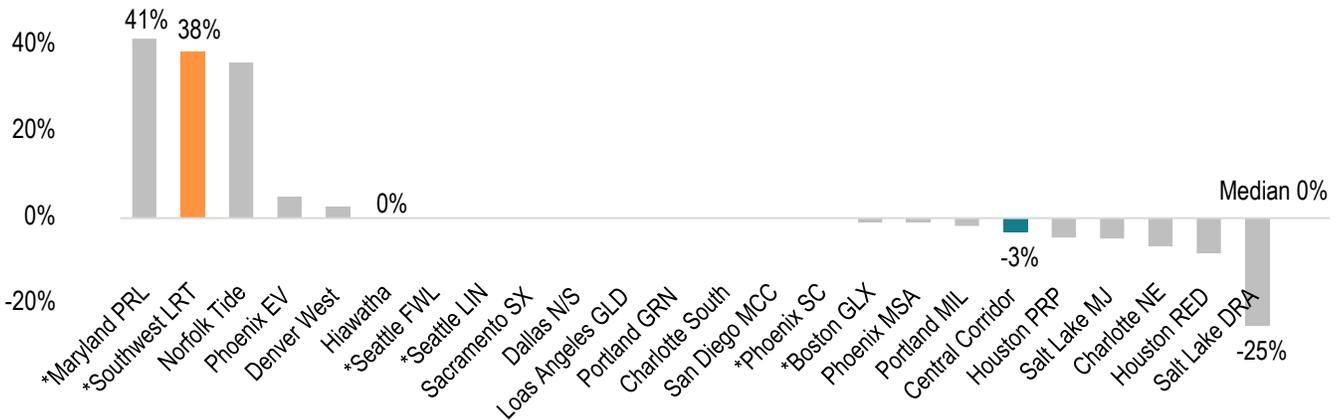


Exhibit 1.5

Southwest LRT costs, as a percentage of the preconstruction budget, increased far more than most similar projects during the construction phase.

(Percentage change in costs)



Notes: Costs for Exhibit 1.4 have been adjusted for inflation and locality differences, and are reported in 2021 Minneapolis dollars. For Exhibit 1.5, OLA has not adjusted cost increases for inflation because New Starts project budgets incorporate estimates of future inflation. As of December 2022, projects marked with an asterisk were still under construction or otherwise had not finalized their costs. We define the preconstruction budget as the budget provided in the Full Funding Grant Agreement.

Source: Office of the Legislative Auditor, analysis of FTA data and various local transit authority and state agency documents.

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**High inflation during construction does not fully explain the magnitude of the Southwest LRT budget increase.**

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Construction costs can be affected by the overall economic environment. For example, some projects in our comparison group that came in under their original budgets had cost projections developed during the strong economy that preceded the 2007-2009 recession, but were then completed after the recession when construction cost conditions were more favorable. Conversely, Southwest LRT is being constructed in less favorable economic circumstances; its earlier cost projections were completed during a period of low inflation, but the project is being constructed during a period of higher-than-expected inflation.<sup>23</sup>

However, unexpected inflation cannot fully explain the size of the Southwest LRT budget increase. The FTA requires New Starts applicants to include future forecasted inflation in their budget estimates, and the Metropolitan Council did so. In preparing its budget for submission to FTA, the Council used an expected inflation rate of 3 percent a year for its budget calculations. However, even if the Council had used an inflation rate of 10 percent per year (the actual inflation rate for construction costs in 2021), the resulting budget would have been about \$2.26 billion, \$500 million less than the current \$2.77 billion budget estimate.

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<sup>23</sup> When the Metropolitan Council applied for the Full Funding Grant Agreement in 2019, it assumed that future inflation would be 3 percent per year. Inflation for construction costs was about 1 percent in 2020, but it increased to 10 percent in 2021.



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# Chapter 2: Decision Making and Authority

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Under state law, the governor must designate either the Metropolitan Council or the Minnesota Department of Transportation (MnDOT) as the responsible authority for planning, designing, and constructing any light rail transit facility.<sup>1</sup> Of the three major light rail construction projects in Minnesota to date, MnDOT has managed the design and construction of one line (Hiawatha) and the Metropolitan Council has managed two (Central Corridor and Southwest).

In response to the delays and budget increases associated with the Southwest Light Rail Transit (Southwest LRT) project, some critics have suggested that the Metropolitan Council should not manage the construction of future light rail lines. In this chapter, we examine how the Metropolitan Council has made decisions regarding the project schedule and funding. We then use these decisions to examine the Council's existing authority and accountability structures.

## Key Findings in This Chapter

- By early 2022, the Metropolitan Council was obligated to spend more money on Southwest LRT than the funds committed to the project.
- Despite knowing that project costs were increasing beyond its available funds, the Metropolitan Council developed no formal contingency plan for temporarily or permanently stopping project work and no estimate of the costs it would incur by doing so.
- Minnesota's framework for developing light rail projects has created a mismatch between the entities that fund the construction of transit projects and the entities that are responsible for constructing them.

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## Financial Capacity

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The Metropolitan Council has limited sources of funding for building major transit projects like Southwest LRT. Exhibit 2.1 shows all sources of the Council's revenue, including both transit and nontransit activities. The Council receives a mix of local, state, and federal funds, and also obtains some revenue directly through user fees (such as transit fares) and its limited taxing authority.<sup>2</sup> Many of the Metropolitan Council's funding streams have strings attached; the money is dedicated for specific purposes, and the Council has limited ability to transfer money from one purpose to another.

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<sup>1</sup> *Minnesota Statutes* 2022, 473.3994, subd. 1a. Under the second option, the state of Minnesota is technically the responsible authority, acting through the MnDOT commissioner.

<sup>2</sup> Statutes authorize the Metropolitan Council to collect property taxes to pay for administrative costs and for designated purposes specified in law. *Minnesota Statutes* 2022, 473.249, 473.252, and 473.253. The Council may also collect a transit tax to pay off bonds that it has used to construct transit improvements; however, the Legislature has limited the use of debt financing for light rail construction. See *Minnesota Statutes* 2022, 473.446; and 473.39, subd. 6.

## Exhibit 2.1

**Many Metropolitan Council revenue sources are not available for Southwest LRT construction.**

Source of Funds	Eligible for Southwest LRT
<b>Operations</b>	
Fares, contracts, advertising	Yes
Federal grants	Varies by grant
Federal housing funds	No
Investment income	No
Local government sales tax	Possibly, but has not occurred
Motor vehicle sales tax	Yes
Property tax	Varies by authorizing law
State appropriations	No
Wastewater/sewer charges	No
<b>Capital Projects</b>	
Federal grants	Varies by grant
Local government grants	Yes, if designated
Metropolitan Council bonds	Possibly, but the Council has committed to use for other purposes
Property tax	No
Public Facilities Authority grants	No
State appropriations	Possibly, but has not occurred
Wastewater/sewer charges	No

Source: Office of the Legislative Auditor, analysis of information from the Metropolitan Council.

Thus, to build a large project like Southwest LRT, the Metropolitan Council must assemble funding from a variety of sources. As we described in our September 2022 special review, the Metropolitan Council has funded Southwest LRT primarily from federal and county sources, with smaller amounts of money from the state and the cities through which the line will run.<sup>3</sup> The Legislature has not appropriated funds for Southwest LRT construction, and has restricted the Council's use of state funds for the project.<sup>4</sup> If project costs increase, the Council cannot easily draw additional funding from sources under its control to pay the additional amounts. The sources of revenue that the Metropolitan Council has direct control over—income from fares, contracts, advertising, and some property tax income—are ordinarily allocated to the Council's day-to-day operations. Redirecting those funds to cover increased Southwest LRT

<sup>3</sup> Office of the Legislative Auditor, Special Review, *Southwest Light Rail Transit: Project Budget and Timeline* (St. Paul, 2022), 5-6.

<sup>4</sup> *Minnesota Statutes* 2022, 473.39, subd. 7; and 473.4051, subd. 2.

building costs would require a reduction in operational spending (or an increase in fares).<sup>5</sup> Rather than draw from these funds to construct Southwest LRT, the Council has instead sought further contributions from its project partners.

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**Before construction started, the Federal Transit Administration raised concerns about the Metropolitan Council’s ability to cover unexpected cost overruns.**

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As part of its evaluation of the Metropolitan Council’s grant application to the federal New Starts program, the Federal Transit Administration (FTA) commissioned an evaluation of the Council’s financial capacity. Citing the Council’s limited capacity to increase revenue, that report found that the Metropolitan Council would not have sufficient resources to cover unexpected cost overruns. The report noted:

According to [the Metropolitan] Council, local partners, including Hennepin County and HCRRA, would provide funding for unexpected cost increases.... However, none of the funding partners have a formal obligation to provide additional funding to the Project if needed. Therefore, these funding sources cannot be considered sources of additional funding.<sup>6</sup>

The limitations on the Metropolitan Council’s ability to raise additional funds led FTA to place conditions on its funding of the Southwest LRT project. FTA directed the Council to show that it could absorb at least a 10 percent funding shortfall before it would release funding under the New Starts program. In response, the Council sought and received a commitment from Hennepin County to provide up to \$200.3 million in additional funding, should it become needed.<sup>7</sup>

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**By early 2022, the Metropolitan Council was obligated to spend more money on Southwest LRT than the funds committed to the project.**

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As we explained in Chapter 1, in January 2022 the Metropolitan Council estimated that it would need \$650-\$750 million more than the project’s budget at the start of construction to complete Southwest LRT. This amount was far more than the 10 percent cushion that the FTA had required; the Council had already requested and

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<sup>5</sup> In order to enter the engineering phase of the Federal Transit Administration New Starts program, the Council was required to show that it would not reduce existing public transportation services to operate the new transit service. 49 *U.S. Code*, sec. 5309(f)(1)(C) (2021). The Council has redirected some federal grant funding received through the Coronavirus Response and Relief Supplemental Appropriations Act, 2021, Public Law 116-260, December 27, 2020, from operating expenses to cover Southwest LRT costs.

<sup>6</sup> Scully Capital Services, Inc., “Financial Capacity Assessment of the Metropolitan Council for the Southwest Light Rail Transit Project” (draft report, Federal Transit Administration, June 2018), 14. (According to Metropolitan Council staff, the “draft” report was the final report prepared.) HCRRA stands for Hennepin County Regional Railroad Authority, a county-established entity that acquires abandoned rail corridors and conducts some planning and funding activities. See Office of the Legislative Auditor, *Southwest Light Rail Transit: Project Budget and Timeline* for additional information on HCRRA’s role in Southwest LRT development.

<sup>7</sup> Hennepin County Board of Commissioners Resolution 18-0500, adopted November 15, 2018.

received the \$200 million that Hennepin County had previously committed and the project was still underfunded by \$450-\$550 million. Because of the limitations on the Metropolitan Council's ability to raise additional revenue or reprioritize its available funds, Council leadership stated it would negotiate with other project partners, such as Hennepin County and the federal government, to obtain the funding it needed. If the Council did not receive additional funds, its leaders implied it would not be able to finish the project.

As of this writing, a full year after the Metropolitan Council announced its need for additional funds, the Council has not yet formally adopted a new budget that covers all of its estimated funding needs for the project. The project was still approximately \$272 million short of the estimated budget as of January 2023.

However, the funding shortfall was a problem beyond the threat to project completion. Construction had already been underway for more than two years in January 2022. As a result, the Metropolitan Council faced significant costs even if it *halted* construction. For example, construction crews had demolished a section of the Kenilworth Trail in Minneapolis but had not yet built its replacement. If the project were abandoned, the Council would still be obligated to replace the trail. Similarly, there would be other expenses along the entire length of the project related to halting construction, including securing project components that might otherwise be vulnerable to damage or create a public hazard.

In testimony before the House Transportation Finance and Policy Committee in March 2022, Metropolitan Council Chair Charles Zelle discussed the amount of additional funding that would be needed even if construction stopped:

Although these additional costs are really...big, we know that stopping the project would be even more costly. We would have to repay the federal government the \$928 million if we were to stop this project. And not just that, but the cost of bringing all the work that's been done back would be more than the original budget of the whole project.<sup>8</sup>

Essentially, by the time of the January 2022 announcement, the Metropolitan Council had already painted itself and its funding partners into a corner: some undetermined entity would have to spend hundreds of millions of dollars in additional public monies regardless of whether the project continued.

In October 2022, Metropolitan Council leaders told us the Council would probably have sufficient funds to temporarily pause construction while the Council sought additional funding. However, Council leaders acknowledged that the Council would eventually need additional funding regardless of whether it pursued completion or cancellation.

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<sup>8</sup> Charles Zelle, testimony before the House Transportation Finance and Policy Committee, March 1, 2022, <https://www.youtube.com/watch?v=Cd2nbVyuygE>, starting at approximately 49:50. It is unclear whether the Metropolitan Council *must* repay FTA the full federal contribution if the project is abandoned at this stage. By not completing the project, the Council would violate its federal grant agreement with FTA; the agreement states that the Government "may" demand repayment.

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## Contingency Planning

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Although the Metropolitan Council announced the changes to the construction timeline and project budget in January 2022, its leadership and the project's key funders had been aware for months that the project was troubled. As we discuss in Chapter 3, the project was already far behind schedule as early as the fall of 2020, according to internal Metropolitan Council documents.

The lengthy delay had serious financial implications. Extending the project timeline by two years or longer would require project and contractor staff to work longer than budgeted for in the schedule, and many other project costs would increase as well. The delays made it very likely the cost of the project would increase beyond the project's existing contingency budget and beyond the additional amount committed by Hennepin County.

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**Despite knowing that project costs were increasing beyond its available funds, the Metropolitan Council developed no formal contingency plan for temporarily or permanently stopping project work and no estimate of the costs it would incur by doing so.**

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The Metropolitan Council did not develop a formal plan for the possibility that additional funding would not be available.<sup>9</sup> Instead, throughout 2020 and 2021, the Council continued to make construction decisions as if the project's resources would increase.<sup>10</sup> The Council spent months negotiating an agreement with its civil construction contractor, Lunda/C.S. McCrossan Joint Venture (Lunda-McCrossan), to extend the project an extra 34½ months. The two parties signed the agreement in March 2022, at an estimated cost to the Council of up to \$210 million beyond the project's budget at the start of construction.

Further, the Metropolitan Council developed no formal estimates for what it would cost to postpone or cancel the project due to insufficient funds. The Council Chair told us that his public statement that stopping the project would be "even more costly" than continuing was not based on any formal estimate, but was rather based on what he knew about transit projects in other parts of the country that had faced serious challenges.

In October 2022, Metropolitan Council leadership told us that the Council was about to begin developing contingency plans for pausing construction because the Council would run out of funds in early 2023 if more funds were not identified. (The FTA had requested the Council to provide a 60-day advance notice before stopping work on the project; the Council was developing the contingency plans in connection with preparing such a notice.) However, once additional county and federal funds were identified in

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<sup>9</sup> Contracts associated with the project typically have termination clauses, indicating how a party to the contract may prematurely end the contract, and detailing each party's responsibilities in that event. We do not view such clauses, taken together, as a "contingency plan." The contractual language may clarify that the Council has financial obligations, but not how it will meet them.

<sup>10</sup> For a few specific project infrastructure elements, such as the Glenwood Avenue bridge, the Council obtained a restoration bond that would provide funding for the Council to replace the element if the project was discontinued.

December 2022, the Council dropped further contingency planning, even though it still had not identified funding to cover all estimated costs.<sup>11</sup>

## Accountability

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In 2011, the Office of the Legislative Auditor issued a program evaluation examining the governance of transit in the Twin Cities metropolitan area.<sup>12</sup> In that report, we found that multiple entities had overlapping responsibilities for transit planning and governance, and that relationships among these entities were fraught with distrust. We wrote, “the complexity of the system makes it difficult to know which entity is responsible for which transit outcome.”<sup>13</sup>

We further pointed out in that report that the organizational structure of the Metropolitan Council “leads to diminished credibility and accountability.”<sup>14</sup> Because the members of Metropolitan Council’s governing body were appointed by the governor and served at the governor’s pleasure, many stakeholders told us that they did not think the Council was sufficiently accountable to local communities for its decisions.<sup>15</sup>

Although the recommendations we made in that report to restructure the Metropolitan Council’s governing board were not acted upon, our concerns still exist. Our review of decision making related to the Southwest LRT project raises a further accountability concern specific to the construction of transit projects.

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### **Minnesota’s framework for developing light rail projects has created a mismatch between the entities that fund the construction of transit projects and the entities that are responsible for constructing them.**

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A common structure for federal and state funding of local projects is the requirement for a local “match,” in which the applicant for funding contributes some of its own money. When an applicant contributes some of its own money, it has an incentive to manage the project’s funds efficiently and effectively. The FTA New Starts program makes use of this approach by requiring a significant local contribution, though the entity building the project does not necessarily have to be a funder itself. Federal law requires nonfederal funders to contribute at least 40 percent of a project’s cost; further, it requires the FTA to cap its contribution at a specific amount, making cost overruns the responsibility of the local funders.<sup>16</sup>

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<sup>11</sup> As we explained in Chapter 1, after identifying additional county and federal funding for the project, the Metropolitan Council’s governing body increased the official budget of the Southwest LRT project to \$2.384 billion in December 2022. The new amount was not enough to cover the project’s estimated budget of \$2.767 billion.

<sup>12</sup> Office of the Legislative Auditor, Program Evaluation Division, *Governance of Transit in the Twin Cities Region* (St. Paul, 2011).

<sup>13</sup> *Ibid.*, p. 31.

<sup>14</sup> *Ibid.*, p. 35.

<sup>15</sup> *Ibid.*, pp. 34-35.

<sup>16</sup> Although the maximum federal share is 60 percent, it may be less. One criterion for evaluation of New Starts applications is the degree of local financial commitment. 49 *U.S. Code*, sec. 5309(l) (2021).

However, because several entities in Minnesota are responsible for funding and managing transit development, this framework does not necessarily create structural incentives for the Metropolitan Council to effectively manage spending. As the governor-designated “responsible authority,” the Council serves as the ultimate project decision-maker for planning, designing, acquiring, constructing, and equipping Southwest LRT. But the local match funding required by the FTA does not come from the Metropolitan Council—in fact, hardly any of the money in the Southwest LRT project budget derives from Council sources. Essentially, the Metropolitan Council is making project decisions with other entities’ money.

The Metropolitan Council’s accountability for its decisions to its local funders and Minnesota taxpayers is limited and indirect. A Hennepin County representative told us the contract between the Council, Hennepin County, and the Hennepin County Regional Railroad Authority (HCCRA) was designed so that the local funders did not provide all of the project funding at once; the County must periodically authorize additional funding. In theory, this funding structure gives the County input into the project and an oversight role. However, the ability to authorize funding periodically throughout the project does not enable the County to exert control over individual project decisions.

The Metropolitan Council’s contract with the County and HCCRA states that “key decisions” will be brought to a “policy maker working group” for “mutual agreement.”<sup>17</sup> However the contract does not define “key decisions,” nor does it define the members of the working group. No minutes have been kept of the working group’s meetings, and a Hennepin County representative told us that the group was not a decision-making body.

Another joint body established in the contract is the Executive Change Control Board (ECCB), which must approve all contract cost increases of \$350,000 or more and any schedule changes that delay the final project completion date. The Board comprises three Hennepin County commissioners and two Metropolitan Council governing body members.<sup>18</sup> The ECCB reviews and approves project changes presented by Southwest LRT project leadership. It does not consider alternatives to those changes, nor does it oversee overall project decision-making or strategy.

These limited accountability structures create the potential for tension and mistrust among the project’s funding partners. The funders are providing large amounts of money but have little control over how it is spent. As costs have increased beyond budgeted amounts, concerns have increased that Metropolitan Council is not being an effective steward of public funds. The ability of the Council to make commitments that could result in increased spending—particularly before others have agreed to provide funds—has exacerbated those concerns.<sup>19</sup>

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<sup>17</sup> Hennepin County and Hennepin County Regional Railroad Authority, “Capital Grant Agreement For The LNTP Period For The Southwest Corridor Light Rail Transit (Green Line Extension) Project With The Metropolitan Council,” as amended, article 6, sec. 6.01.

<sup>18</sup> One of the Hennepin County commissioners is acting as a board member of the Hennepin County Regional Railroad Authority. There is also a nonvoting representative from Ramsey County.

<sup>19</sup> According to Metropolitan Council leadership, their decisions in 2020 and 2021 to press forward with construction without identifying funding to cover the costs of either continuing or stopping were supported by key project partners in behind-the-scenes conversations.

Having different entities responsible for funding and overseeing light rail construction also diminishes accountability. When problems arise, the Metropolitan Council can point to funding decisions made by counties, the state, or the federal government, even though it is ultimately responsible for Southwest LRT construction decisions. Similarly, Hennepin County can point to management decisions made by the Metropolitan Council, even though the County is the local entity largely responsible for funding Southwest LRT.

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## RECOMMENDATION

**The Legislature should create a framework in which the government entity responsible for light rail transit construction also bears some financial responsibility for construction costs and any potential cost increases.**

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There are important reasons for a regional entity like the Metropolitan Council to play a key role in transportation planning and operation. Transportation needs do not stop at city or county borders; the Council's regional authority enables it to manage an integrated transportation system. However, under current funding arrangements, the Metropolitan Council does not bear the financial burdens of the decisions it makes regarding capital projects.

We believe such a structure creates fundamental accountability problems. When cities, counties, or the state face funding shortfalls, they must find ways to either increase revenue or reduce spending; they cannot simply present the problem to others and ask them to provide additional resources.

We recommend that the Legislature require that large-scale transit construction projects be led by a public entity that itself bears some of the cost burden for the project and has financial resources to increase spending if cost overruns occur. However, we acknowledge that this is not an easy recommendation to implement, because any method to do so would likely create other complications. Below, we briefly discuss the advantages and disadvantages of three possible entities to lead future light rail construction projects in Minnesota:

1. **MnDOT.** There are obvious advantages to having MnDOT direct light rail construction. The department has extensive experience managing large-scale construction projects, and it has successfully built a light rail line in the past (Hiawatha). However, as part of the executive branch in state government, MnDOT may not be any more accountable to local electorates and governments than the Metropolitan Council. Further, MnDOT would likely have to assemble light rail construction funding from multiple external sources in the same way that the Council does. Although MnDOT has a large annual budget, much of its funding is dedicated for other uses and could not easily be transferred to a light rail project experiencing cost overruns.

- 2. Counties.** Counties have taxing authority and have already provided substantial funding to light rail projects, so they already meet the criteria of our recommendation. Further, counties in the metropolitan area have experience leading expensive and complex projects and may have the capacity to manage a light rail construction project. For example, Hennepin County staff have been deeply involved in the work of the Southwest LRT project office. However, light rail construction projects may have components in more than one county, which could produce complications related to intercounty coordination. Counties may be less likely than a regional or state entity to make choices that support regionwide transit needs. Further, different projects being led by different counties could lessen the ability of a single agency to learn from repeated experience.
- 3. Metropolitan Council.** As the regional planning entity and the eventual light rail operator, the Metropolitan Council is a reasonable choice to manage the construction of light rail lines. Designating the Metropolitan Council as the responsible authority means the same entity that builds the light rail system will operate it. In fact, our 2011 report recommended that the Metropolitan Council be the lead agency for constructing New Starts projects.<sup>20</sup> However, that recommendation was made in the context of a report that also called for restructuring the Council's governing body to make the agency more accountable—a recommendation that was never implemented. For the Metropolitan Council to continue to lead light rail construction projects, the Legislature should provide the Council with (1) a leadership structure that makes the Council more accountable to its stakeholders, and (2) authority the Council can use to fund construction of a given light rail project, so that when the Council makes decisions, it is putting its own money on the line.

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<sup>20</sup> *Governance of Transit in the Twin Cities Region*, pp. 93-94.



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# Chapter 3: Scheduling and Delays

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The Southwest Light Rail Transit (Southwest LRT) project has been significantly delayed in all phases: planning, design, and construction. During the late planning and design phases, the project's completion date was gradually pushed back from 2018 to 2023. Since the start of construction, the completion date has been delayed further, and the Metropolitan Council now expects the line to open for service in 2027.

We described the delays that occurred in the planning and design process in our 2022 special review.<sup>1</sup> In this chapter, we explore the delays that have occurred during the construction phase of the project. We look first at construction delays that stemmed from decisions made during the bidding process, before construction started. We then examine the Metropolitan Council's oversight of the civil contractor's construction schedule. Last, we discuss the delays surrounding the Kenilworth LRT tunnel in particular, by reviewing whether preconstruction studies identified the problems that would later arise.

## Key Findings in This Chapter

- The Metropolitan Council solicited bids for the civil construction portion of Southwest LRT with project specifications it knew to be incomplete.
- The Metropolitan Council did not hold its civil contractor accountable for repeated failures to provide an acceptable project schedule.
- The preconstruction engineering analyses performed by Metropolitan Council contractors did not predict the Kenilworth LRT tunnel construction challenges that seriously delayed the project.

## Bidding Decisions

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As required by state and federal law, the Metropolitan Council must use a competitive bidding process to hire contractors to construct a project like Southwest LRT.<sup>2</sup> In a competitive bidding process, the entity in charge of the project (in this case, the Metropolitan Council) publishes a set of detailed construction plans and specifications of the project elements that will be delivered as a part of a single contract.<sup>3</sup> Companies wishing to perform the construction work submit a bid detailing the amount that they would charge to construct the elements according to the specifications. The lowest bidder is awarded the contract.<sup>4</sup>

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<sup>1</sup> Office of the Legislative Auditor, Special Review, *Southwest Light Rail Transit: Project Budget and Timeline* (St. Paul, 2022), 15-27.

<sup>2</sup> *Minnesota Statutes* 2022, 471.345, subs. 3 and 3a; and 49 *U.S. Code*, sec. 5325(a) (2021).

<sup>3</sup> A large project like Southwest LRT will have multiple contractors with separate project responsibilities, such as design, civil construction, quality management, etc. Each contractor is chosen through a separate procurement process.

<sup>4</sup> In some instances (though not for Southwest LRT), construction contracts may be awarded to the "best value" bidder. *Minnesota Statutes* 2022, 471.345, subd. 3a.

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**The Metropolitan Council solicited bids for the civil construction portion of Southwest LRT with project specifications it knew to be incomplete.**

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When the Metropolitan Council began the bidding process for the civil construction portion of the project, it decided not to add several elements to the specifications that had changed late in the design phase. Most notably, these elements included (1) the Eden Prairie Town Center Station, which the Council had removed from the project in 2015 as a cost-cutting measure, but later re-added after the City of Eden Prairie obtained additional funding, and (2) the corridor protection barrier, a mile-long concrete wall separating the LRT line from an adjacent freight line that will limit the possibility that a derailment on one line could cause damage to the other.

The Metropolitan Council chose to move forward with the civil construction bidding process in 2017 and added these and other delayed components to the project later.<sup>5</sup> According to project leaders, they viewed moving forward as preferable to delaying the bidding process—and thus the entire project—for an extended period of time, which they believed would have increased costs due to the need to keep contractors working on the project for a longer period of time.

As a result of issuing incomplete project specifications, the Metropolitan Council did not seek competitive bids for some significant aspects of the project's construction work. Once the Council awarded the overall civil construction contract to Lunda-McCrossan, it would have been infeasible to have another contractor construct additional elements in the midst of active Lunda-McCrossan construction sites. Instead, the Council negotiated directly with Lunda-McCrossan to reach agreement on the additional costs and schedule delays attributable to the changes.<sup>6</sup>

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**The Metropolitan Council's addition of substantial new or changed work after the civil construction bidding process was complete delayed the project schedule and increased costs.**

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The contractor planned its work based on the original bid specifications; as a result, the introduction of new or significantly changed project components affected the project's schedule. For a complex project like Southwest LRT, scheduling involves ensuring the completion of certain project tasks before others begin, and is constrained by the need to avoid scheduling conflicting tasks in the same place at the same time. Adding significant new work into an existing schedule can be disruptive.

Of the changes the Metropolitan Council knew about before it solicited bids for the civil construction project, the corridor protection barrier has created the most scheduling complications. An August 2020 time impact analysis conducted by a Lunda-McCrossan subcontractor examining the corridor protection barrier and related changes concluded that the changes would extend the project timeline by approximately

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<sup>5</sup> There were actually two civil construction bidding processes. The first bidding process began in February 2017. The Metropolitan Council rejected all bids it received in the first bidding process and opened a second bidding process in October 2017.

<sup>6</sup> We will discuss the Metropolitan Council's administrative change control processes in our next report on Southwest LRT, expected in Spring 2023.

36 months if no mitigating changes were made. However, if the Council and Lunda-McCrossan made changes to other parts of the project to mitigate the schedule impacts from the barrier construction, the analysis suggested the additional delay could be limited to approximately 27 months.<sup>7</sup> Although the Council disputed the specifics of the analysis, it acknowledged that the addition of the barrier wall significantly affected the civil construction schedule.

The addition of the corridor protection barrier also increased costs. First, the barrier itself was expensive; the Metropolitan Council eventually agreed to pay Lunda-McCrossan \$92.7 million to construct the barrier. Second, the Council also had to pay Lunda-McCrossan additional amounts to reorganize its work to take the barrier into account and mitigate the potential delay. Third, the Council had to pay additional costs simply because of the project delay itself, due to the cost of inflation and retaining contractors for a longer period of time. We were unable to identify an exact amount for these last two cost increases related to the corridor protection barrier because the Council and Lunda-McCrossan subsumed those costs into a larger agreement that covered other major changes as well.

## Discussion

A fundamental principle of competitive bidding is that the description of the project that bidders use to prepare their bids should be as complete as possible. When work is not included in the bidding process and is instead added later as a change to the contract, the agency (1) loses the pressure of competition that could lower costs, (2) places itself at a disadvantage in negotiating a price for the changes, and (3) enables the contractor to argue that it should be able to add not just cost, but also time, to the project schedule to incorporate the change.

The Metropolitan Council's changes to the construction contract have been extensive. The Eden Prairie Town Center Station and the corridor protection barrier additions had the greatest impact of the changes the Council knew about but did not include in its bid specifications. However, there were also many smaller changes that the Council approved after the contract was awarded.

We believe the Eden Prairie Town Center Station could have, and should have, been included in the bidding specifications when the project was opened for bidding in October 2017. Southwest LRT project leadership told us that the Eden Prairie Town Center Station could not have been included in the original bid because the station's design was not 99 percent complete until December 2017 and because the city did not pass a resolution committing its portion of the funding until May 2018. However, the Metropolitan Council waited six months after Eden Prairie's application for outside funding was approved before starting work on the station design; had design work started earlier, it could have been completed before bidding began. Further, Eden Prairie had already committed to provide its portion of the station funding in its 2016 grant application to the Transportation Advisory Board.<sup>8</sup>

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<sup>7</sup> Willoughby 2000 PLLC, *Time Impact Analysis No. 003, Change 16 – Change 57 – Change 90*, Project: SWLRT – Southwest Light Rail Transit, Contract No. 15P307A (Davidson, NC: August 2020), 3 and 19.

<sup>8</sup> The Transportation Advisory Board is made up of 34 elected and appointed officials and community representatives. It plays an important role in determining the distribution of federal transit- and transportation-related funding in the Twin Cities region.

On the other hand, it is difficult to assess what the Metropolitan Council should have done with regard to the corridor protection barrier. Ideally, an agency would not contract for nearly \$100 million in work without a competitive bidding process. On the other hand, at the time of bidding, the Council had not finished the design of the barrier or concluded a supplemental environmental review process required by the Federal Transportation Administration (FTA). Southwest LRT project leadership told us that waiting for both processes to be completed before seeking bids on the full project would have delayed bidding for months and affected the ability of the project to take full advantage of the 2019 summer construction season.

The Metropolitan Council provided our office with a retrospective analysis of the likely impact to the project had the Council delayed bidding until it could add the corridor protection barrier to the bid specifications. The Council estimated that waiting would have added more than \$200 million to the project cost and delayed the opening of the project for at least three years. However, the Council's analysis was incomplete, because it assumed that there would be zero cost or schedule benefits gained from obtaining competitive bids for the barrier by including it in the bid specifications. In our view, it is unknowable whether delaying the bidding in order to include the corridor protection barrier would have been a more cost-effective approach.

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## RECOMMENDATION

**The Metropolitan Council should make greater efforts to avoid introducing major project changes once the competitive bidding process concludes.**

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Any large construction project will encounter changes that are identified during the course of construction. Most of these changes will be for relatively low-cost items, often reflecting circumstances in the construction environment that differ from the plans (for example, finding unmapped utility infrastructure). It is reasonable to directly negotiate with the existing contractors to address additional costs arising from such changes.<sup>9</sup>

However, some changes are much larger. We are particularly concerned by the cost of the corridor protection barrier, an element that the Metropolitan Council already knew it would add to the project at the time it solicited bids. We would expect any agency to obtain competitive bids for a stand-alone construction contract worth \$93 million. The fact that the barrier is a small part of a \$2.77 billion construction project does not change our concern.

In circumstances where the Metropolitan Council is already aware of significant upcoming changes at the time of bidding, it should make greater efforts to ensure that those changes are incorporated into the project specifications prior to bidding. In some instances, those efforts should include delaying bidding until more complete specifications can be published.

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<sup>9</sup> We plan to examine the Council's negotiation of such changes in our second program evaluation of Southwest LRT, expected in Spring 2023.

## Civil Construction Schedule

Once construction began, the Metropolitan Council’s contract with Lunda-McCrossan required the contractor to submit various construction schedules, as outlined in Exhibit 3.1. These schedules showed how Lunda-McCrossan would meet the project completion deadlines outlined in the contract. The contract specifications contained a broad outline of how the work would be organized, creating a series of intermediate milestone deadlines that the Council could use to assess whether the project was on track.

### Exhibit 3.1 Construction Schedules Submitted by Lunda-McCrossan

Preliminary 280-day	Schedule for the first 280 days of work under the contract. Submitted March 2019.
Initial baseline	Draft project schedule. First submitted June 2019; revised July 2019.
Full baseline	Complete project schedule. First submitted August 2019. Revised four times; last revision submitted March 2020.
Monthly updates	Ongoing updates to full baseline schedule based on actual work completed to date and incorporating any scope changes. First submitted April 2020 and submitted monthly thereafter.

Source: Office of the Legislative Auditor.

In addition to listing the contractor’s expectations for how it would meet the intermediate and overall schedule milestones, the full baseline schedule was also intended to play an important role in determining the Metropolitan Council’s payments to the contractor. For the full baseline schedule, Lunda-McCrossan was required to provide a “cost- and resource-loaded” schedule. A cost- and resource-loaded schedule is a framework that assigns costs and resources (such as staffing, supplies, and equipment) to each specifically scheduled task. The Council planned to use this schedule as a basis for assessing and approving payment requests submitted by Lunda-McCrossan.

### **The Metropolitan Council did not hold its civil construction contractor accountable for repeated failures to provide an acceptable project schedule.**

Under the original construction plan, Southwest LRT construction was broken into 16 segments, each with its own schedule deadlines. Starting with Lunda-McCrossan’s first revision of its initial baseline schedule, submitted in July 2019, every schedule that Lunda-McCrossan submitted contained a completion date for at least one segment that was later than the date specified in the contract. In early schedule submissions, Lunda-McCrossan still claimed that it would complete all construction by October 2022 even though it did not expect to meet every intermediate milestone date. However, by its April 2020 monthly update schedule, Lunda-McCrossan was submitting schedules showing an overall construction delay of 275 days.

Starting with the submission of Lunda-McCrossan’s first construction schedules in 2019, the Metropolitan Council repeatedly refused to accept the schedules submitted by Lunda-McCrossan. The Council rejected Lunda-McCrossan’s initial baseline schedule, several revisions of its full baseline schedule, and six successive monthly schedule updates. The Council identified more than 1,000 separate items requiring correction in the first version of Lunda-McCrossan’s full baseline schedule, including scheduling tasks outside the timelines established in the contract, missing tasks, tasks not correctly



### Enforcing Schedule Requirements

“Enforcement provisions within the contract scheduling specifications help agencies ensure the information flow necessary.... The most common enforcement provision gives Project Sponsors the option to withhold progress payments pending submittal of acceptable CPM [critical path method] schedules and updates in accordance with the contract. Progress payments are generally based on updates of the contractor’s cost loaded CPM schedule. Without an acceptable schedule status update, progress payments should not be made.”

— FTA Project and Construction Management Guidelines<sup>10</sup>

sequenced after necessary preliminary tasks, tasks that appeared to take longer than necessary, tasks planned to start later than they should, and other issues. Perhaps most importantly, the Council stated that Lunda-McCrossan’s full baseline schedule did not provide complete cost- and resource-loading, as required by the contract.

The Metropolitan Council eventually granted “conditional acceptance” to Lunda-McCrossan’s fifth revision of the baseline schedule, stating that Lunda-McCrossan had to remedy that schedule’s deficiencies in its first monthly schedule update. However, the Council found that none of the first three monthly schedule updates resolved the outstanding deficiencies. In response to the Council’s repeated rejections, Lunda-McCrossan replied that it “acknowledges Council’s position, but does not agree or accept it.”

Despite the Metropolitan Council’s assessment that Lunda-McCrossan had failed to meet this fundamental contract responsibility—one on which payments supposedly depended—it took limited actions to insist upon compliance. The civil construction contract gave the Council the ability to suspend payments to Lunda-McCrossan until it received an acceptable schedule:

If the CONTRACTOR fails at any time to submit an acceptable Project Schedule in accordance with the time requirements of this Section; the COUNCIL reserves the right, without waiver of other remedies available to it, to suspend progress payments for completed Work until the schedule, update, or revision is submitted to and accepted by the COUNCIL.<sup>11</sup>

Nevertheless, the Metropolitan Council did not make full use of its leverage. Instead, the Council largely responded to Lunda-McCrossan’s lack of compliance in a series of written responses to the submitted schedules. Otherwise, the Council permitted the contractor to continue with construction tasks while the schedule disputes continued. Further, the Council permitted Lunda-McCrossan to submit payment requests, and paid those requests as they were submitted. The Council did penalize Lunda-McCrossan for schedule deficiencies by withholding a portion of Lunda-McCrossan’s requested payments for four consecutive months in late 2019 and early 2020. However, the withheld amount was a fairly small proportion of the total payment requested: the Council withheld a total of approximately \$1.7 million from payment requests totaling

<sup>10</sup> Kam Shadan et al., *Project and Construction Management Guidelines* (Washington: U.S. Department of Transportation, Federal Transit Administration, 2016), [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Project\\_and\\_Construction\\_Mgmt\\_Guidelines\\_2016.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Project_and_Construction_Mgmt_Guidelines_2016.pdf), accessed February 28, 2022, pp. 3-32

<sup>11</sup> *Green Line Extension (Southwest LRT) Civil Construction (rebid)*, Division Requirements (revision 5), section 01 32 16, 3.15 (2018). More broadly, the contract allows the Council to withhold partial or full payment of the contractor’s request for payment on the basis of defective work or the contractor’s failure to comply with contractual obligations. *Green Line Extension (Southwest LRT) Civil Construction (rebid)*, Conformed Documents, 00700 General Conditions, article 14, sec. 14.6 (2018).

about \$71.4 million (2.3 percent). After Lunda-McCrossan's January 2020 payment request, the Council stopped withholding payments for insufficient schedule completion, even though it continued to reject Lunda-McCrossan's submitted schedules.

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## RECOMMENDATION

### **On future capital construction projects, the Metropolitan Council should enforce the schedule requirements of the contract.**

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We are sympathetic to the Metropolitan Council's desire to keep the Southwest LRT project moving forward and to limit the potential for further delays. However, the limited actions the Council took to enforce the project's schedule requirements were not sufficient to ensure compliance. The Council simply allowed the contractor to move forward without an accepted schedule for years.

In a peer review of the Southwest LRT project completed in December 2022, the Minnesota Department of Transportation (MnDOT) was highly critical of the Metropolitan Council's willingness to continue the project without an accepted schedule. It wrote:

[On MnDOT projects,] construction cannot begin without an accepted Baseline Schedule and agreement by both MnDOT and the contractor.... Starting construction without a Baseline Schedule is a significant risk. With no agreed-upon schedule, it is difficult for a project owner to gauge whether the timeline is reasonable and constructable and it creates significant challenges to identifying and assessing delays and the potential impact of extra work. Ultimately, absent a schedule to review, the project owner really has no ability to understand how the contractor plans on building the project.<sup>12</sup>

For future major capital construction projects, the Metropolitan Council should ensure compliance with contractual schedule requirements. We recommend the Council adopt MnDOT's approach of making the start of construction conditional upon an accepted project schedule.

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### **The civil construction contractor claimed that construction delays were primarily the responsibility of the Metropolitan Council; the Council eventually agreed.**

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For its part, Lunda-McCrossan claimed that its inability to meet the milestone dates outlined in the contract were largely due to three reasons:

**Delay in awarding the contract.** Due to delays in receiving federal funding, the Metropolitan Council did not award the contract within the originally planned timeframe. Therefore, the Council twice asked Lunda-McCrossan to "extend its bid." (Ordinarily, if a contract is not awarded, then all bids expire

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<sup>12</sup> Minnesota Department of Transportation, Office of Construction and Innovative Contracting, "SWLRT MnDOT Peer Review Report" (St. Paul, December 30, 2022), 3.

and a new bidding process must take place.) Lunda-McCrossan agreed to keep its bid open for a longer period of time, but later claimed that its resulting late start on the project meant it could not be held to the commitments it had made when first bidding for the contract.

In its December 2022 peer review of the Southwest LRT project, MnDOT highlighted the long delay between the review of bids and the awarding of the contract as a particular concern:

MnDOT maintains a maximum duration from letting date [when bids are opened] to award date of 33 days. The SWLRT Civil contract was awarded to LMJV more than 6 months after the original letting date. While MnDOT understands that funding delays contributed to the duration, MnDOT considers 6 months to be an excessively long duration from letting to award date. Without definitive direction, it is difficult for a contractor to plan its work, confirm sub-contractors and secure necessary materials. This extended duration—coupled with uncertainty about whether the contract would ultimately be awarded—likely created many project management and procurement challenges before the project even began.<sup>13</sup>

**Feasibility.** Lunda-McCrossan claimed that some construction milestones in the contract were impossible to meet because of various logistical constraints. It argued that because the intermediate and final construction deadlines were developed by the Metropolitan Council during the design phase, the Council had a responsibility to ensure they were feasible. In its May 2020 monthly schedule update, Lunda-McCrossan wrote:

The issues were not deficiencies within the Baseline Project Schedule but rather deficiencies in the Contract Documents as issued by COUNCIL. Lunda-McCrossan is not obligated to absorb COUNCIL's failure to design a fully integrated and constructible design or its failure to accurately determine a reasonable, even if accelerated, contract time.<sup>14</sup>

**Numerous project changes.** Lunda-McCrossan said that it continually needed to adjust schedules to incorporate project changes into its existing plans. In its September 2020 schedule update, Lunda-McCrossan summarized that the Metropolitan Council had already issued 509 change orders and an additional 200 allowance use authorizations for unforeseen conditions.<sup>15</sup> Meanwhile, Lunda-McCrossan had notified the Council of an additional 275 changes for which it was seeking Council approval. According to Lunda-McCrossan, incorporating so many changes in a short span of time near the beginning of the

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<sup>13</sup> Minnesota Department of Transportation, Office of Construction and Innovative Contracting, "SWLRT MnDOT Peer Review Report" (St. Paul, December 30, 2022), 2.

<sup>14</sup> Lunda/C.S. McCrossan Joint Venture, *Monthly Update Schedule 16Apr20 Through 15May20, Data Date 16May20* (Hopkins, MN, 2020), 11.

<sup>15</sup> An allowance is funding allocated for work where costs cannot be quantified ahead of time (for example, snow removal).

project caused project delays. Importantly, Lunda-McCrossan was making this claim *before* it began incorporating changes related to the corridor protection barrier and the Kenilworth tunnel construction method.

In March 2022, the Metropolitan Council agreed that Lunda-McCrossan was not responsible for most of the project’s delays and it would not penalize the contractor for any of them. The settlement agreement the two parties reached that month stated that the new schedule reflected an extension of 34½ months, and that at least 30 months of the extension was “not due to the contractor’s fault.”<sup>16</sup> The Council agreed to pay Lunda-McCrossan additional money to compensate it for the 30-month delay, and Southwest LRT project leadership has stated the Council is responsible for 30 months of the delay.<sup>17</sup> The Council further agreed that the remaining 4½ months of delay was “excusable”—meaning that the Council would not penalize Lunda-McCrossan for the delay—and that the parties would engage in an alternative dispute resolution process to determine whether the Council will pay any additional amount to Lunda-McCrossan for that portion of the delay.

## Kenilworth LRT Tunnel Delays

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The alteration of the construction methods for the tunnel in the Kenilworth corridor was probably the most disruptive change affecting the Southwest LRT project schedule after construction began. In its September 2020 schedule submission, Lunda-McCrossan forecast a 288-day delay in the project completion date. The following month’s schedule update (October 2020) was the first to incorporate delays caused by the Kenilworth tunnel construction changes; Lunda-McCrossan’s estimate of project completion delay increased to 759 days, and noted that some elements of the tunnel design were still being evaluated.<sup>18</sup>

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### **The preconstruction engineering analyses performed by Metropolitan Council contractors did not predict the Kenilworth LRT tunnel construction challenges that seriously delayed the project.**

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After construction of the tunnel began, construction crews encountered problematic site conditions due to the composition of the soil and the presence of boulders and cobbles in the area where the tunnel was being built. These conditions led the Metropolitan Council and Lunda-McCrossan to make a series of changes to the tunnel construction methods, most notably, the addition of a “secant wall.”<sup>19</sup> Further, these changes to

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<sup>16</sup> Lunda/C.S. McCrossan Joint Venture and the Metropolitan Council, “Settlement Agreement,” March 17, 2022, II.A.5 (p. 4).

<sup>17</sup> Metropolitan Council/Hennepin County, “Meeting of the SWLRT Executive Change Control Board,” March 17, 2022, <https://metrocouncil.org/getdoc/9d5cb687-7724-4e1f-a128-2d475de47435/Minutes.aspx>, accessed December 30, 2022.

<sup>18</sup> As noted elsewhere in this chapter, the Metropolitan Council did not approve Lunda-McCrossan monthly schedule updates; we provide the difference between the two updates to highlight the magnitude of the potential change to the project schedule, not to suggest the parties agreed to the proposed 759-day delay.

<sup>19</sup> A secant wall is a type of concrete retaining wall constructed using interlocking concrete cylinders (piles).

methods had to take into account risks to a nearby high-rise condominium building.<sup>20</sup> These changes created substantial project delays and additional costs.

Our review of engineering studies conducted by Metropolitan Council consultants during the design phase showed that the problems caused by soil settlement and boulders and cobbles had not been predicted.<sup>21</sup> The Council’s geotechnical consultant noted the possible presence of cobbles in the soil, but its reports made no suggestion that their presence would impede construction.<sup>22</sup> Thus, the Metropolitan Council was not aware of the need for significant changes to tunnel construction methods before the contract was awarded and construction started.

That being said, the Metropolitan Council had been aware from the start of the project that the tunnel construction would be complicated. Council leadership has stated that in hindsight, the Council would have preferred to budget a larger contingency amount; the Council added additional contingency funds specifically for tunnel construction in its August 2022 calculation of the new estimated project cost (see Chapter 1).

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**Schedule disagreements between the Metropolitan Council and its civil construction contractor became less important when problems with the Kenilworth LRT tunnel overwhelmed all other schedule delays.**

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Prior to the introduction of the Kenilworth tunnel changes, the Metropolitan Council had rejected numerous schedules submitted by Lunda-McCrossan, insisting that the contractor submit schedules consistent with the timelines laid out in the original contract. However, once the Kenilworth tunnel changes were incorporated into the October 2020 monthly schedule update, the Council’s response implicitly acknowledged that serious project delays would likely occur.

Beginning with the October 2020 schedule update, the Metropolitan Council began “acknowledging receipt” of Lunda-McCrossan’s schedule submittals without formally approving or rejecting them. The Council and Lunda-McCrossan began to discuss resequencing work on the entire project, reordering the work on the segments so that those not affected by the tunnel construction would finish earlier. The resequencing would allow work by a systems contractor to begin on some sections of the line while Lunda-McCrossan continued to work on tunnel construction and other delayed tasks.<sup>23</sup>

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<sup>20</sup> The condominium association discovered damage to its building in January 2022. The Metropolitan Council and the condominium association are currently involved in a mediation process regarding the construction adjacent to the condominium structures. It is undisputed that the Council paused construction for some months to investigate the situation and directed its contractor to take extra steps during subsequent construction to limit the potential for additional damage.

<sup>21</sup> Evaluating whether these studies were sufficiently rigorous was beyond the scope of our evaluation. We limited ourselves to reviewing their conclusions.

<sup>22</sup> See, for example, American Engineering Testing, Inc., “Report of Geotechnical Exploration and Review: Shallow LRT Tunnel—Kenilworth Corridor” (report prepared for AECOM, Southwest Light Rail Transit Project, June 27, 2017), 9-10.

<sup>23</sup> Broadly speaking, the systems contractor, Aldridge Parsons Joint Venture, will build all of the electrical systems along the line and install items that require electrical power. It will do its work after the physical structures are completed.

These discussions eventually led to the negotiations that resulted in the March 2022 settlement agreement. Because work on the entire project was resequenced, the Metropolitan Council and Lunda-McCrossan agreed on new intermediate and final completion dates for all construction work. This “rebaselined” schedule was the first baseline schedule submitted by Lunda-McCrossan since the start of construction that the Council unconditionally approved.

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## RECOMMENDATION

### **The Metropolitan Council should consider additional external reviews for high-risk or high-cost project elements.**

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In the Office of the Legislative Auditor’s 2019 evaluation, *MnDOT Measures of Financial Effectiveness*, we praised MnDOT’s use of value engineering, a short, intense process in which a team of engineers not associated with a project examine and rethink the project’s design parameters. We found that value engineering studies consistently produced recommendations that led to cost savings.<sup>24</sup> At the time of our report, MnDOT required value engineering studies for any project estimated to cost at least \$20 million.

The Metropolitan Council conducted a value engineering study for the Southwest LRT project, but it was a single study for the entire \$2 billion project. Given that MnDOT has routinely conducted value engineering studies for much smaller projects, we suggest that the Council conduct separate value engineering studies for individual project elements associated with particular construction challenges or high costs. The Kenilworth tunnel, for example, would have been a promising candidate for a separate value engineering study.

We note that our recommendation is similar to a recommendation MnDOT made in its peer review of Southwest LRT. MnDOT observed that the Metropolitan Council had relied on a single consultant to conduct an external review of the Kenilworth tunnel construction plans. In the future, MnDOT suggested that the Council use multiparty constructability reviews, in which multiple outside parties review construction plans for challenging project elements.<sup>25</sup>

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<sup>24</sup> Office of the Legislative Auditor, Program Evaluation Division, *MnDOT Measures of Financial Effectiveness* (St. Paul, 2019), 44-46.

<sup>25</sup> Minnesota Department of Transportation, Office of Construction and Innovative Contracting, “SWLRT MnDOT Peer Review Report” (St. Paul, December 30, 2022), 9.



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# Chapter 4: Transparency

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As a public entity, the Metropolitan Council has an important responsibility to be as open and transparent as possible about its decision making surrounding light rail construction. Such transparency is even more important when a construction project encounters delays and cost increases, like those that have plagued the Southwest LRT project.

In this chapter, we examine whether the Metropolitan Council has provided sufficient information to the public, stakeholders, and legislators.

## Key Findings in This Chapter

- The Metropolitan Council has not been fully transparent about the project's increasing costs and delays.
- The Metropolitan Council has not adequately communicated to the public the uncertainty surrounding its estimates of future costs.

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## Cost and Schedule Changes

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As we discussed in Chapter 3, the Metropolitan Council knew it would have to make significant changes to the civil construction contract even before it began the bidding process. Although the full impact of those changes only gradually became apparent, the Metropolitan Council knew the project would not stay within its budget and timeline long before it shared that information with the Legislature or the general public.

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### **The Metropolitan Council has not been fully transparent about the project's increasing costs and delays.**

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Metropolitan Council leaders have told us that the Council's reporting activities have typically been tied to funding. Because the Federal Transit Administration (FTA) and Hennepin County are the primary funders of Southwest LRT, the Council has focused on providing information to them about upcoming cost and schedule impacts. Since the Legislature did not provide funding for Southwest LRT construction and did not require regular reports from the Metropolitan Council on construction progress, the Council did not provide similar reports to the Legislature.<sup>1</sup>

Further, the Metropolitan Council has at times delayed presenting detailed information in a public setting about upcoming changes that will negatively affect the project until it has fully scoped the work and reached agreements with its contractors about cost and schedule impacts. Because such planning and negotiations can be lengthy, this practice has sometimes created a long lag between when Southwest LRT project leadership knew of project impacts and when the public and interested legislators became aware.

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<sup>1</sup> The 2022 Legislature began requiring regular reports from the Metropolitan Council on the progress of Southwest LRT construction. *Laws of Minnesota 2022*, chapter 39, sec. 2.

For example, project documents indicate that the Metropolitan Council knew that unanticipated soil conditions were seriously impacting the progress of the Kenilworth LRT tunnel construction by at least early 2020. As depicted in Exhibit 4.1, by June 2020, Lunda-McCrossan, the Council’s civil construction contractor, was projecting at least an eight- to nine-month delay related to tunnel construction difficulties. The Council also decided to construct a “secant wall” along a small section of the tunnel to protect the foundation of nearby buildings.<sup>2</sup> The October 2020 monthly construction schedule update submitted by Lunda-McCrossan was its first schedule to incorporate the construction of the secant wall; it forecast an additional 15-month delay to the overall civil construction schedule, bringing its total projected delay to 25 months.

#### Exhibit 4.1

#### Timeline of Events Related to Kenilworth LRT Tunnel Construction

Date	Event
2019	Heavy construction begins; first excavation work for the Kenilworth tunnel.
December 2019	Lunda-McCrossan notifies Metropolitan Council that unforeseen soil conditions are interfering with Kenilworth tunnel construction.
Early 2020	Lunda-McCrossan and the Metropolitan Council work to understand the soil settlement issues. The Council decides to add a “secant wall” along a small section of the tunnel to protect the foundations of nearby buildings.
June 2020	Metropolitan Council directs an engineering contractor to begin designing a secant wall. Lunda-McCrossan notifies the Council it expects tunnel construction in the area surrounding the secant wall to be delayed 8 to 9 months.
October 2020	Lunda-McCrossan’s monthly schedule update incorporates the delays related to tunnel construction, and projects civil construction will conclude 25 months past the original completion date. The Council “acknowledges receipt” of the schedule without approving it.
January 2021	Metropolitan Council announces a “potential” project delay caused by tunnel construction issues and the construction of the corridor protection barrier, stating the line will “most likely” not open in 2023 as previously planned. The announcement offers no further details about the extent of the delay and does not mention cost impacts.
June 2021	Southwest LRT project staff present the first of several changes regarding Kenilworth tunnel construction to the Council’s Executive Change Control Board for approval.
January 2022	The Metropolitan Council reveals that it is extending the civil construction timeline 34 months and now estimates total project costs will be \$650-\$750 million greater than the budget at the start of construction. Tunnel construction changes are cited as one of several contributing factors.

Source: Office of the Legislative Auditor, analysis of Metropolitan Council documents.

<sup>2</sup> A secant wall is a type of concrete retaining wall constructed using interlocking concrete cylinders (piles).

Although the Metropolitan Council did not adopt the 25-month timeframe proposed by Lunda-McCrossan, it was already clear in October 2020 that the project schedule would be significantly affected.<sup>3</sup> Further, the delay would have significant financial repercussions beyond the increased costs directly associated with changing the tunnel construction methods. On large construction projects, delays cost money. As we discussed in Chapter 1, a large share of the additional funds the Metropolitan Council eventually requested to complete the project were needed to extend contractual arrangements that would last longer due to delayed project completion.

However, it took a long time before the full scope of the cost and schedule impacts was clear to the public. In January 2021, the Metropolitan Council announced a “potential delay” to completion of the Southwest LRT project, writing that the Council and Lunda-McCrossan “encountered unforeseen conditions in the Minneapolis segment of the alignment that will take longer to overcome.”<sup>4</sup> The announcement did not provide any information about the length of the delay other than warning that the Council would “most likely not be meeting its opening day projection of 2023.”<sup>5</sup> The announcement also did not indicate that the delay would have any cost impacts. At a Corridor Management Committee meeting the next month, project leadership warned that the tunnel construction change would significantly affect the project’s timeline, but did not provide any information about increased costs.<sup>6</sup>

One venue for oversight of the Southwest LRT project is the Executive Change Control Board (ECCB), a group of Hennepin County commissioners and Metropolitan Council members that approves major project changes.<sup>7</sup> Among the purposes of the ECCB is to “approve all change orders, project requirements, contracts, and all other contract cost increases of \$350,000 or more, as well as changes to the Project schedule that will delay the revenue service date.”<sup>8</sup> However, Metropolitan Council policies generally do not require Council staff to present cost and schedule changes to the ECCB for review until final decisions have already been reached.<sup>9</sup> The Council did not begin publicly

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<sup>3</sup> As we described in Chapter 3, the Council “acknowledged receipt” of Lunda-McCrossan’s October 2020 schedule without approving or rejecting it.

<sup>4</sup> Metropolitan Council, “Southwest LRT Announces Potential Delay,” January 14, 2021, <https://metro council.org/News-Events/Transportation/Newsletters/Southwest-potential-delay-2021.aspx>, accessed February 28, 2023.

<sup>5</sup> *Ibid.*

<sup>6</sup> Metropolitan Council, Minutes of the Southwest Corridor Management Committee, February 3, 2021. A Corridor Management Committee is a committee required by state law to provide advice on the design, construction, and environmental review of a light rail line. See *Minnesota Statutes* 2022, 473.3994, subd. 10. The Southwest Corridor Management Committee has included representatives from Minnesota Management and Budget, Hennepin County, Metropolitan Council, Metro Transit, Minnesota Department of Transportation, local governments, and other project advisory committees.

<sup>7</sup> Specifically, the Executive Change Control Board comprises the Chair of the Metropolitan Council, another Metropolitan Council member, three Hennepin County commissioners (one of whom represents the Hennepin County Regional Railroad Authority), and a non-voting Ramsey County commissioner.

<sup>8</sup> Metropolitan Council, Executive Change Control Board, “Operating Procedures,” <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Green-Line-Extension/SWLRT-Committees/Executive-Change-Control-Board.aspx>, accessed January 11, 2023.

<sup>9</sup> In some instances, Council staff obtain preliminary ECCB approval for a change before the full cost is known. The Council can then direct the contractor to proceed with change work up to a specified cost threshold while the final costs are being negotiated.

presenting the costs of the tunnel construction changes to the ECCB until June 2021. Further, despite the clear schedule implications, the Council presented only the costs of the actual construction changes for approval to the ECCB in 2021. It did not seek approval for tunnel-related construction delays from ECCB until the January 2022 meeting, at which the Council presented all civil construction delays combined together through the settlement agreement with Lunda-McCrossan.

Another example of the Metropolitan Council's limited transparency is related to the cumulative effect of smaller project changes. In Chapter 3, we explained that a variety of challenges in 2019 and 2020—including the incorporation of many project changes requested by the Council—led Lunda-McCrossan to propose project timelines that exceeded the timelines laid out in the contract. Meeting minutes available online for the project's advisory and oversight committees that meet publicly—the Transportation Committee of the Metropolitan Council, the Corridor Management Committee, the ECCB, the Disadvantaged Business Enterprise and Workforce Advisory Committee, the Business Advisory Committee, and the Community Advisory Committee—suggest that the Council generally did not notify them that such changes would have a cumulative impact on the project's overall schedule. Even after the Council announced the project's extended timeline in January 2022, Council representatives have focused on the three largest scope changes (the Eden Prairie Town Center Station, the corridor protection barrier, and the secant wall) as the primary causes of the 34½-month civil construction schedule delay. Nonetheless, the Council acknowledged in the settlement agreement it reached with Lunda-McCrossan that the cumulative impact of these smaller changes also affected the overall schedule.

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## RECOMMENDATION

**For future light rail construction projects, the Legislature should require the Metropolitan Council (or other responsible authority) to inform the Legislature if cost overruns or project delays reach certain thresholds.**

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The Metropolitan Council has had substantial discretion in releasing news about project challenges to its public oversight committees, the public, and the Legislature. The Council has used this discretion to limit the information it has provided about cost increases and project delays until it is able to provide detailed information about expected costs and new timeline dates. This approach has left many stakeholders in the dark about the project for extended periods of time. Further, it has created the impression that the Council is delaying its reporting of cost increases or delays until it is too late to question the Council's decisions or propose alternatives.

In March 2022, the Legislature required the Metropolitan Council to provide a report on the project once every six months and to provide additional notification if (1) the project completion date is delayed by at least six months or (2) the total project cost is estimated to increase by 5 percent or more.<sup>10</sup> We believe the Legislature should add a

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<sup>10</sup> *Laws of Minnesota 2022*, chapter 39, sec. 2.

similar law to Minnesota statutes and extend this approach to all light rail projects. Such a requirement would ensure that the responsible authority informs the Legislature when a light rail construction project is encountering significant challenges, even if it is not yet able to state with precision the expected length of a delay or the expected amount of a cost increase.

However, the legislation as currently worded still grants the Metropolitan Council considerable discretion to choose when it “determines” that the project completion date is delayed or that project costs have increased. For example, although the Council announced in January 2022 that it anticipated completing Southwest LRT in approximately 2027, it had not announced a new project completion date as of February 2023. Because there is no current project completion date to count from, it is unclear how the Council would determine whether any further delay would meet the law’s six-month notification requirement.

Further, for a project as large as Southwest LRT, a 5 percent increase is a significant amount of money. The project’s current official budget is \$2.384 billion, meaning that a \$100 million increase in costs would not be large enough to trigger the notification requirement. For very large projects like Southwest LRT, it may be advisable to set a dollar—rather than percentage—reporting threshold.

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## Estimates of Future Cost Increases

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As we explained in Chapter 1, the Metropolitan Council has sought \$650-\$750 million to complete the Southwest LRT project, in addition to the \$2.003 billion it budgeted at the start of construction. In August 2022, the Council provided our office a detailed list of the expenses this additional funding would cover and information on how it had estimated those costs. The list identified \$764 million in additional costs and contingency amounts. We reviewed the methodology the Council used to arrive at its \$764 million figure.

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### **The Metropolitan Council has not adequately communicated to the public the uncertainty surrounding its estimates of future costs.**

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Our examination of the components of the Metropolitan Council’s estimate found that a significant portion of the \$764 million in additional funding the Council is seeking is based on (1) undocumented professional judgments or (2) an assumption that civil construction costs will not reach the maximum amount agreed to by the Council and its contractor. The lack of certainty surrounding some of the underlying components of the \$764 million estimate suggests that the project is at risk of exceeding the Council’s current projection of the total cost.

## Rough Order of Magnitude Estimates

Many of the items the Metropolitan Council listed in its detailed estimate of additional costs were based on already agreed-upon costs or costs that could be modeled based on past experience. For example, the project's extended timeline will mean that the Council's project office will remain open for longer than initially planned. The Council's additional costs to lease that office space for additional months can be predicted fairly confidently based upon the terms of the existing lease. However, other items in the Metropolitan Council's estimates are subject to greater uncertainty and should be viewed with caution.



### Rough Order of Magnitude Estimate

"[D]eveloped when a quick estimate is needed and few details are available...helpful for examining differences in high-level alternatives to see which are the most feasible. Because it is developed from limited data and in a short time, a rough order of magnitude analysis should never be considered a budget-quality cost estimate."

— U.S. Government  
Accountability Office<sup>11</sup>

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### Approximately one-quarter of the Metropolitan Council's estimate of the additional funds needed to complete the Southwest LRT project consists of rough estimates that may differ from actual costs.

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About 25 percent (\$187 million) of the Metropolitan Council's estimate of its \$764 million budget increase is based on "rough order of magnitude" estimates. As the name suggests, these estimates are not based on detailed historical cost or contract data, but instead are professional judgments by project managers, engineers, or consultants based on their experience and expertise. We asked the Council to provide us with details of the calculations used to create these estimates, including comparison projects or purchases; we were told in most cases that the estimates were not based on any calculations.

According to the Metropolitan Council, rough order of magnitude estimating is not unusual on construction projects, particularly when historical cost or contract data is unavailable. However, it is more typically used to compare alternatives at a high level and should not be used to set project budgets, according to the U.S. Government Accountability Office. More broadly, a rough order of magnitude estimate that is not based on contractual agreements, historical project data, or analysis of comparable situations could be inaccurate; the actual cost could be much more or much less.

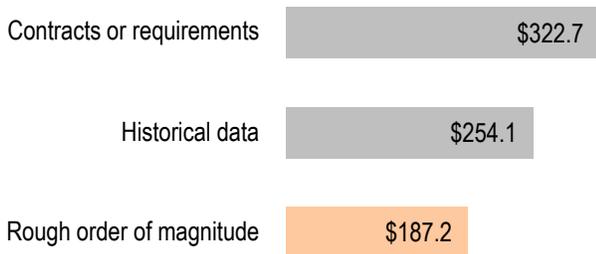
Metropolitan Council officials told us that their rough order of magnitude estimates were conservative. However, without any data or calculations to support their estimates, we could not evaluate that claim.

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<sup>11</sup> United States Government Accountability Office, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs*, GAO-20-195G, (Washington, DC, March 2020), 20, <https://www.gao.gov/products/gao-20-195g>, accessed December 6, 2022.

**Exhibit 4.2**  
**How the Metropolitan Council Estimated Additional Costs Beyond the Original Project Budget**

(In millions)



Source: Office of the Legislative Auditor, analysis of Metropolitan Council data.

Since the Metropolitan Council provided our office the budget forecast data in August 2022, at least two project components covered by rough order of magnitude estimates have been completed. Outstanding contract changes related to the Glenwood Avenue East Bridge in Minneapolis were estimated to cost \$5 million, but were finalized for \$3.8 million; and outstanding contract changes to the Franklin Operations and Maintenance Facility in Minneapolis were estimated to cost \$500,000, but cost just \$100,000. In both cases, the actual costs were much less than the original estimates. We cannot predict if other project components will follow the same trend.

## Settlement Agreement Cost Projections

As we wrote in Chapter 1, the Metropolitan Council reached a settlement agreement with its contractor, Lunda-McCrossan, in March 2022 for the increased costs and lengthened timeline of the civil construction. However, that agreement did not resolve what the Council will pay for all outstanding construction work. As of December 2022, the Council continued to negotiate disputes over project changes with Lunda-McCrossan and was still negotiating settlement agreements with its systems contractors.<sup>12</sup>

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### The Metropolitan Council’s estimate of the funds needed to complete the Southwest LRT project assumes many cost disputes with its civil construction contractor will be resolved in the Council’s favor.

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The March 2022 settlement agreement did not actually resolve all of the outstanding cost disputes between the Metropolitan Council and Lunda-McCrossan. The agreement placed a cap of \$288 million on the amount the Council would pay Lunda-McCrossan for a variety of increased project expenses. However, the agreement explicitly excluded from the cap some additional project changes that could further increase the amount paid to the contractor. The two parties agreed to an alternative dispute resolution process that includes mediation and arbitration to resolve disputed costs and determine the full amount that the Metropolitan Council will eventually pay.

The Metropolitan Council’s governing body has approved the use of up to \$210 million to settle outstanding disputes addressed in the civil construction settlement agreement. However, Lunda-McCrossan has made no commitment to limit its charges to that amount. It has committed to (1) meeting the new project schedule, and (2) participating in an alternative dispute resolution process to settle cost disagreements. Depending on the results of the mediation and arbitration process, the Council could pay more than the

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<sup>12</sup> Civil construction consists of the physical structures that make up the light rail line. Systems construction includes the placement and installation of almost anything that is electrically powered, such as lights, loudspeakers, information displays, and communications systems.

\$210 million its governing body has authorized so far. Were the Council to pay Lunda-McCrossan the maximum \$288 million amount, the final project cost increase could be higher than the Council's estimate of \$764 million.

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## RECOMMENDATION

**In its public communications regarding projected cost increases, the Metropolitan Council should more clearly indicate the level of uncertainty surrounding its estimates of future costs.**

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It is reasonable for the Metropolitan Council to have some uncertainty about future costs. However, the Council has not been clear in its public statements about the amount of uncertainty contained within its new estimate of total project costs. Given the lack of precision in how a significant portion of the estimate was created, there is a risk Southwest LRT could cost more (or less) than the Metropolitan Council's announced total cost increase. Further, given the lack of data underlying some components of the Council's estimate, it is impossible to quantify how much risk is present.

Metropolitan Council leaders stated that they had been transparent about the uncertainty present in their estimate by providing a range of \$650-\$750 million in their August 2021 and January 2022 announcements of project cost increases. We agree that providing a range is a reasonable way of communicating uncertainty. However, the more detailed estimates provided to us by the Council suggest that \$764 million should have been in the *middle* of the range, not greater than the largest figure the Council provided publicly.

We recommend the Metropolitan Council provide clearer information to legislators, the public, and interested stakeholders about what it does not know. The Council should more clearly state how much of its estimate of the project's total cost is based on contractually agreed payments or historical cost data, and how much has less evidentiary support and thus higher uncertainty.

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# List of Recommendations

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- The Legislature should create a framework in which the government entity responsible for light rail transit construction also bears some financial responsibility for construction costs and any potential cost increases. (p. 20)
- The Metropolitan Council should make greater efforts to avoid introducing major project changes once the competitive bidding process concludes. (p. 26)
- On future capital construction projects, the Metropolitan Council should enforce the schedule requirements of the contract. (p. 29)
- The Metropolitan Council should consider additional external reviews for high-risk or high-cost project elements. (p. 33)
- For future light rail construction projects, the Legislature should require the Metropolitan Council (or other responsible authority) to inform the Legislature if cost overruns or project delays reach certain thresholds. (p. 38)
- In its public communications regarding projected cost increases, the Metropolitan Council should more clearly indicate the level of uncertainty surrounding its estimates of future costs. (p. 42)



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# Appendix

## New Starts Light Rail Projects

Chapter 1 Abbreviation	Project Name	Location	Miles of Track	Number of Stations	FFGA Execution Year	Opening Year	FFGA Budget (in millions)	Final Cost (in millions)
Boston GLX	Green Line Extension	Boston, MA	4.7	7	2015	2022	\$2,298	\$2,280*
Central Corridor	Central Corridor LRT	Minneapolis- St. Paul, MN	9.7	18	2011	2014	\$ 957	\$ 926
Charlotte NE	LYNX Blue Line Extension – Northeast Corridor	Charlotte, NC	9.3	11	2012	2018	\$1,160	\$1,085
Charlotte South	South Corridor LRT	Charlotte, NC	9.6	15	2007	2007	\$ 463	\$ 463
Dallas N/S	Northwest/Southeast LRT	Dallas, TX	20.9	16	2006	2010	\$1,406	\$1,406
Denver West	West Corridor LRT	Denver, CO	12.1	11	2009	2013	\$ 692	\$ 710
Hiawatha	Hiawatha LRT	Minneapolis, MN	12.0	17	2003	2004	\$ 713	\$ 715
Houston PRP	Southeast Corridor LRT	Houston, TX	6.6	10	2011	2015	\$ 762	\$ 728
Houston RED	North Corridor LRT	Houston, TX	5.3	8	2011	2013	\$ 654	\$ 601
Los Angeles GLD	Metro Gold Line East Side Extension	Los Angeles, CA	6.0	8	2004	2009	\$ 899	\$ 899
Maryland PRL	National Capital Purple Line	Washington, DC (MD suburbs)	16.2	21	2017	2026*	\$2,407	\$3,400*
Norfolk Tide	Norfolk Tide LRT	Norfolk, VA	7.3	11	2007	2011	\$ 232	\$ 315
Phoenix EV	Central Phoenix/East Valley Light Rail	Phoenix, AZ	19.7	28	2005	2008	\$1,253	\$1,315
Phoenix MSA	Central Mesa LRT Extension	Phoenix, AZ	3.1	4	2012	2015	\$ 199	\$ 197
Phoenix SC	South Central Extension/Downtown Hub	Phoenix, AZ	5.5	8	2021	2026*	\$1,345	\$1,345*
Portland GRN	South Corridor I-205/Portland Mall LRT	Portland, OR	8.3 <sup>a</sup>	8 <sup>b</sup>	2007	2009	\$ 576	\$ 576
Portland MIL	Portland-Milwaukie Light Rail	Portland, OR	7.3	10	2012	2015	\$1,490	\$1,463
Sacramento SX	South Sacramento Corridor Phase 2	Sacramento, CA	4.3	3 <sup>c</sup>	2012	2014	\$ 270	\$ 270
Salt Lake Draper	Draper Transit Corridor	Salt Lake City, UT	3.8	3	2011	2013	\$ 194	\$ 146
Salt Lake MJ	Mid Jordan LRT	Salt Lake City, UT	10.6	9	2009	2011	\$ 535	\$ 510
San Diego MCC	Mid-Coast Corridor Transit Project	San Diego, CA	10.9	9	2016	2021	\$2,171	\$2,171
Seattle FWL	Federal Way Link Extension	Seattle, WA	7.8	3	2020	2025*	\$3,161	\$3,161*
Seattle LIN	Lynnwood Link Extension	Seattle, WA	8.5	4	2018	2024*	\$3,260	\$3,260*
Southwest LRT	Green Line Extension	Minneapolis, MN	14.5	16	2020	2027*	\$2,003	\$2,767*

Notes: Information marked with an asterisk is projected. The Federal Funding Grant Agreement (FFGA) lists the project's overall budget near the start of construction (after a project's planning and design phases). The Federal Transit Administration bases its funding contribution to the project on the FFGA budget figure.

<sup>a</sup> The total project length was 14.5 miles; however, 6.2 miles of track were already constructed and required minimal investment.

<sup>b</sup> The project includes the reconstruction of a 1.4-mile long bus mall in downtown Portland to accommodate both buses and trains.

<sup>c</sup> The original project scope included four stations, but one station was deferred.



OLA



Judy Randall  
Legislative Auditor  
658 Cedar Street, Room 140  
St Paul, MN 55155

March 13, 2023

Dear Ms. Randall:

Thank you for the opportunity to review and respond to the *Office of the Legislative Auditor's report on the Southwest Light Rail Transit (SWLRT) Construction: Metropolitan Council Decision Making*. We appreciate the time spent by the audit staff to develop a deeper understanding of the Metropolitan Council's development of this significant transitway project.

**The report minimizes the Metropolitan Council's transparency and accountability to our funding partners for shared decision making. While project funding is shared between multiple parties, risk and accountability resides with the Met Council.**

We agree with the auditor's recommendation to align funding responsibility with the government entity responsible for light rail transit construction. Transitway finance governance has been a long discussed and debated issue in our region. Under the current framework, decisions that drive future costs are susceptible to leverage by parties with funding control, which can introduce project completion risks and future operating risks. The auditor's report, however, minimizes the Met Council's transparency and accountability to our funding partners. Decision making is well documented within grant agreements and board actions and is practiced through regular decision meetings by embedded partner representatives in daily project activities.

**The Metropolitan Council adopted a Transitway Advancement Policy to address and manage risk with our regional partners for advancing transitway projects.**

The Met Council generally agrees with the recommendations regarding scheduling and delays and had begun taking steps to address them well before this audit began. Our actions on Orange Line, D Line, Gold Line, and the current Blue Line Extension demonstrate we have implemented changes that are in line with the recommendations of this report and the recent MnDOT Peer Report.

The Council adopted a Transitway Advancement Policy that strengthens the Council's process for advancing projects by jointly clarifying risks, roles, and responsibilities in mitigating project and life cycle risks ahead of significant regional investment and critical project decision points.

The policy applies to both future transitway projects seeking entry into the region's Transportation Policy Plan (TPP) and to transitway projects in the TPP but at different stages of development, including the SWLRT project.

### **Project cost comparisons omit other mega projects.**

The SWLRT project is a mega project that includes 29 bridges, 2 LRT tunnels, 6 pedestrian tunnels, co-location with freight rail, 6 miles of retaining walls and more than 14 miles of guideway. The conclusions in the report's comparison section of the SWLRT Project to other national projects omits several mega projects with similar levels of complexity and therefore does not support a conclusion that cost increases during construction have been higher than other projects. Despite the unique and complex nature of the SWLRT, data in the report does show the SWLRT project is more cost-effective per track mile than other projects of varying size.

### **Resequencing construction schedule mitigated cost and schedule risk.**

The Met Council's work to negotiate a re-sequenced schedule with the civil contractor followed industry best practice and effectively streamlined the turnover sequence to the follow-on contractor mitigating further delay to the revenue service date. The Council's claims and schedule consultant, whose expertise is nationally recognized, estimates that the re-sequenced schedule mitigated the overall delay to the Project by at least two years. The Met Council has also held its contractors accountable and utilized appropriate contract provisions to withhold payment to hold the construction contractor accountable to the schedule specifications.

### **Characterization of change orders after solicitation of bids does not accurately reflect limitations.**

The Met Council agrees adding the BNSF Barrier Wall and the Eden Prairie Town Center Station resulted in significant change orders to the project and that efforts should be made to limit such changes after the bidding period concludes.

However, in a December 2022 peer review of the Project, MnDOT concurred with the Met Council's conclusion that neither the Barrier Wall nor Eden Prairie Town Center Station could be included at the time of bid. The Met Council disagrees with the assertion presented in the report that competitive pricing for the Barrier Wall would outweigh the cost of delaying the project until it could be included in the bid. The report states that it is "unknowable whether delaying the bidding in order to include the corridor protection barrier would have been a more cost-effective approach."

The Council and its funding partners weighed several options before determining to add the barrier wall to the existing contract. The Council believed the decision was the right one at the time, and in hindsight still believes it was the right decision for minimizing costs and delay to the project.

The report also inaccurately characterizes the City of Eden Prairie's application for federal grant funding for construction of the station as a funding commitment to the Project. The Council does not recognize a contractual commitment of local funds secured by a grant application, but rather requires the grant be awarded.

### **Complexities of long-term planning and development of transitway projects impact decisions.**

Decisions regarding the planning and development of transitway projects span decades, impacting future costs and risk. The SWLRT project, with all its complexities, is more than 70% complete in implementing the Locally Preferred Alternative approved by municipalities along the route and developed over multiple administrations.

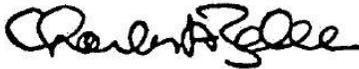
As the project has encountered construction and financial challenges, the Met Council has addressed issues and options with funding partners who have repeatedly rejected an option to shutter or delay the project. Funding partners continue to commit to finding solutions as the project progresses.

Once complete, the SWLRT project will add 14.5 miles to the existing METRO Green Line and connect major activity centers in the region. The Project has already attracted more than \$2 billion in new and planned development along its route.

As the regional planning entity and operator of the transit system, the Met Council, as the report suggests, is a reasonable choice to manage the construction of light rail lines. The Met Council has a proven track record for delivering significant transit infrastructure projects with the METRO Blue Line LRT (Hiawatha Project in partnership with MnDOT), METRO Green Line LRT (Central Corridor Project), Orange Line Bus Rapid Transit (BRT), and A/C/D Arterial BRT lines all built within budget and schedule. While more complex than previous lines, the SWLRT project extension of the METRO Green Line reflects strategic investment in regional infrastructure that will promote economic competitiveness and create prosperity for the region.

Thank you for the opportunity to respond and we appreciate the auditor's recommendation to align funding and construction responsibility to strengthen accountability and minimize risk for future transitway projects. Transitway projects are significant investments that improve our transportation system and advance the region's vision for the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles A. Zelle". The signature is fluid and cursive, with the first name being the most prominent.

Charles A. Zelle  
Chair



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## **Forthcoming OLA Evaluations**

*RentHelpMN*

*Southwest Light Rail Transit Construction: Metropolitan Council Oversight of Contractors*

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*Agricultural Utilization Research Institute (AURI)*,  
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*Agricultural Commodity Councils*, March 2014

### **Criminal Justice and Public Safety**

*Driver Examination Stations*, March 2021

*Safety in State Correctional Facilities*, February 2020

*Guardian ad Litem Program*, March 2018

*Mental Health Services in County Jails*, March 2016

*Health Services in State Correctional Facilities*,  
February 2014

### **Economic Development**

*Minnesota Investment Fund*, February 2018

*Minnesota Research Tax Credit*, February 2017

*Iron Range Resources and Rehabilitation Board (IRRRB)*,  
March 2016

### **Education (Preschool, K-12, and Postsecondary)**

*Minnesota Department of Education's Role in Addressing the Achievement Gap*, March 2022

*Collaborative Urban and Greater Minnesota Educators of Color (CUGMEC) Grant Program*, March 2021

*Compensatory Education Revenue*, March 2020

*Debt Service Equalization for School Facilities*,  
March 2019

*Early Childhood Programs*, April 2018

*Perpich Center for Arts Education*, January 2017

*Standardized Student Testing*, March 2017

*Minnesota State High School League*, April 2017

*Minnesota Teacher Licensure*, March 2016

### **Environment and Natural Resources**

*Petroleum Remediation Program*, February 2022

*Public Facilities Authority: Wastewater Infrastructure Programs*, January 2019

*Clean Water Fund Outcomes*, March 2017

*Department of Natural Resources: Deer Population Management*, May 2016

*Recycling and Waste Reduction*, February 2015

*DNR Forest Management*, August 2014

### **Financial Institutions, Insurance, and Regulated Industries**

*Department of Commerce's Civil Insurance Complaint Investigations*, February 2022

### **Government Operations**

*Oversight of State-Funded Grants to Nonprofit Organizations*, February 2023

*Sustainable Building Guidelines*, February 2023

*Office of Minnesota Information Technology Services (MNIT)*, February 2019

*Mineral Taxation*, April 2015

*Councils on Asian-Pacific Minnesotans, Black*

*Minnesotans, Chicano/Latino People, and Indian Affairs*, March 2014

### **Health**

*Emergency Ambulance Services*, February 2022

*Office of Health Facility Complaints*, March 2018

*Minnesota Department of Health Oversight of HMO Complaint Resolution*, February 2016

*Minnesota Health Insurance Exchange (MNSure)*,  
February 2015

*Minnesota Board of Nursing: Complaint Resolution Process*, March 2015

### **Human Services**

*Child Protection Removals and Reunifications*, June 2022

*DHS Oversight of Personal Care Assistance*, March 2020

*Home- and Community-Based Services: Financial Oversight*, February 2017

*Managed Care Organizations' Administrative Expenses*,  
March 2015

### **Jobs, Training, and Labor**

*Unemployment Insurance Program: Efforts to Prevent and Detect the Use of Stolen Identities*, March 2022

*State Protections for Meatpacking Workers*, 2015

### **Miscellaneous**

*State Programs That Support Minnesotans on the Basis of Racial, Ethnic, or American Indian Identity*,  
February 2023

*Board of Cosmetology Licensing*, May 2021

*Minnesota Department of Human Rights: Complaint Resolution Process*, February 2020

*Public Utilities Commission's Public Participation Processes*, July 2020

*Economic Development and Housing Challenge Program*,  
February 2019

*Minnesota State Arts Board Grant Administration*,  
February 2019

*Board of Animal Health's Oversight of Deer and Elk Farms*, April 2018

*Voter Registration*, March 2018

*Minnesota Film and TV Board*, April 2015

### **Transportation**

*Southwest Light Rail Transit Construction: Metropolitan Council Decision Making*, March 2023

*MnDOT Workforce and Contracting Goals*, May 2021

*MnDOT Measures of Financial Effectiveness*,  
March 2019

*MnDOT Highway Project Selection*, March 2016

*MnDOT Selection of Pavement Surface for Road Rehabilitation*, March 2014

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