Austin's Project Connect:
Review of Governance and Leadership

Preliminary Governance Report

February 2022

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Executive Summary

Project Connect is a transformative investment in rapid transit that will shape mobility, land use patterns, and the economic and social growth of the Austin region for decades to come. The plans for this investment were developed by the Austin community through a community engagement process jointly led by the City of Austin (the City) and Capital Metro Transportation Authority (Capital Metro). Project Connect was ultimately made possible with the passage of Proposition A, approved by voters in November 2020.[1]

The Austin Transit Partnership (ATP) is an independent local government corporation formed by the City and Capital Metro as a special purpose delivery vehicle (SPDV) primarily responsible for the implementation of Project Connect.[2] ATP is also the custodian entrusted with ad valorem (property) tax revenues of the City, approved by voters under Proposition A.[3]

This Preliminary Governance Report is being provided at the direction of the ATP Board of Directors as the first step in an Independent Analysis to determine the appropriate leadership model for ATP.[4] Currently, Capital Metro and ATP share an executive director, as established by ATP's Articles of Incorporation.[5] The Eno Center for Transportation (Eno) was selected by the ATP Board to conduct the Independent Analysis and to provide an impartial report to the ATP Board evaluating the advantages and disadvantages of joint or separate executive leadership with Capital Metro.[6] This leadership arrangement is discussed in further detail in Section 2.0.

The Independent Analysis will take into account the input received from the Austin community and Project Connect stakeholders, as well as information gathered from other comparable transit systems (both domestic and international) utilizing a SPDV project implementation model. Eno will then use the community input and the information gathered from other transit programs to complete a Final Report summarizing the advantages and disadvantages of both joint leadership and independent leadership governance models.

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[1] 2020 Project Connect Tax Rate and Mobility Bond Elections, City of Austin, https://www.austintexas.gov/MobilityElections2020.
[2] City of Austin Ordinance No. 20200812-009, August 7, 2020; Austin Transit Partnership Articles of Incorporation, Article IV. Purposes, Activities, December 18, 2020 (hereinafter referred to as "ATP Articles of Incorporation"); Joint Powers Agreement between Austin Transit Partnership and Capital Metropolitan Transportation Authority and the City of Austin, December 17, 2021 (hereinafter referred to as the "Joint Powers Agreement")("The City Council and Capital Metro Board created a joint local government corporation, named Austin Transit Partnership, to serve as the independent entity responsible for the implementation of the Project Connect System Plan . . .").
[3] City of Austin Ordinance No. 20200812-009, August 7, 2020 ("[T]he additional revenue raised by the tax rate is to be dedicated by the City to an independent board to oversee and finance the acquisition, construction, equipping, and operations and maintenance of the rapid transit system by providing funds for loans and grants to develop or expand transportation within the City . . . ").
[4] Joint Powers Agreement Section 4.2.2.
[5] ATP Articles of Incorporation, Article VI. Board ("The initial Executive Director of the Joint local government corporation will be the Capital Metro President & CEO.").
[6] Austin Transit Partnership, Resolution ATP-2021-036, Section 1, December 15, 2021.

The ATP Board has identified several key priorities and factors to be considered in the Independent Analysis, as described in Section 2.0.[7] The appropriate leadership model for ATP and Project Connect will depend on the roles and responsibilities of ATP, Capital Metro, and the City. These roles are generally outlined in the Joint Powers Agreement and the Contract with the Voters and other foundational documents adopted by the parties.[8] While these documents establish that ATP will be primarily responsible for financing, designing, building, and implementing Project Connect, certain specific roles and responsibilities of each party must be formally determined.[9]

Establishing effective governance, which includes institutional arrangements, responsibilities, and executive leadership structures, is critical to the long-term success of any large capital program. Domestic and international examples can inform the structure of governance and leadership in Austin to achieve the timely and cost-effective delivery of Project Connect. This Preliminary Governance Report establishes the context for project governance, outlines peer examples, and lays the groundwork for the Final Report. This Preliminary Governance Report is not intended to answer questions, but rather to provoke questions, comments and considerations from Austin community members and leaders.

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[7] Austin Transit Partnership, Resolution ATP-2021-036, Sections 2-3, December 15, 2021.

[8] Joint Powers Agreement: City of Austin Resolution No. 20200807-003, August 7, 2020 (referred to herein as the "Contract with the Voters"); ATP Articles of Incorporation; Bylaws of the Austin Transit Partnership Local Government Corporation.

[9] Joint Powers Agreement, Section 2.1; ATP Articles of Incorporation, Article IV. Purposes, Activities ("The Corporation [ATP] is to be the principal entity responsible for financing, designing, building, implementing, and contracting with Cap Metro to operate and maintain assets funded by the Joint Local Government Corporation in a manner independent of the City and Capital Metro.").

1.0 Project Connect - Program Background

Project Connect is a $7.1 billion infrastructure program that will deliver a multi-modal rapid transit plan that builds new and enhances existing transit in the Austin Region. The Initial Investment involves building light rail (blue and orange lines), commuter rail (green line), rapid bus, and dedicated guideway infrastructure, including a Downtown Transit tunnel, new MetroRapid routes, many new MetroRapid stations, new MetroExpress commuter bus routes, new park and ride facilities, and a new regional transit center.[10]

Project Connect moved from its visioning stage to its implementation stage in November 2020 with the passage of Proposition A, in which voters approved an 8.75 cent City of Austin property tax increase. The Prop. A Tax Revenue will be the principal source of funding for the initial investment of Project Connect and provides a critical long-term revenue source for operations and maintenance, and to secure various sources of financing for the program. In addition, the Prop. A Tax Revenue uniquely includes $300 million dedicated to anti-displacement efforts to build and preserve affordable housing along Project Connect's transit corridors.

The ballot language for Proposition A stated that the Prop. A Tax Revenue shall be transferred "to an independent board to oversee the project."[11] As part of the passage of the Contract with the Voters, the City and Capital Metro jointly created the Austin Transit Partnership as a local government corporation to be "the principal entity" responsible for financing, designing, building, and implementing, and contracting with Capital Metro to operate and maintain Project Connect.[12]

In addition to the Prop. A Tax Revenue, Capital Metro has committed to providing additional funding for Project Connect through its Capital Expansion Fund. Project Connect will also rely on federal grant funding primarily through the Capital Investment Grant (CIG) program administered by the Federal Transit Administration (FTA). Ultimately, ATP will need to borrow funds through revenue bonds, federally subsidized "TIFIA" loans, and other short-term and long-term borrowing programs to finance the initial investment and any subsequent capital costs of Project Connect.

Prior to beginning construction on the light rail components of Project Connect, which represent most of the program in terms of capital costs, several important tasks must be accomplished. These tasks include: preliminary design work and planning; completing the federal environmental review (NEPA) process; applying for and receiving federal CIG funding; issuing bonds and loans to cover upfront construction costs; acquiring property; engaging the community; and developing strategies to ensure smooth construction and operational handover. While ATP will be primarily responsible for the programming, budgeting, financing, designing and construction of Project Connect, each of these steps will require significant policy input and participation from the City

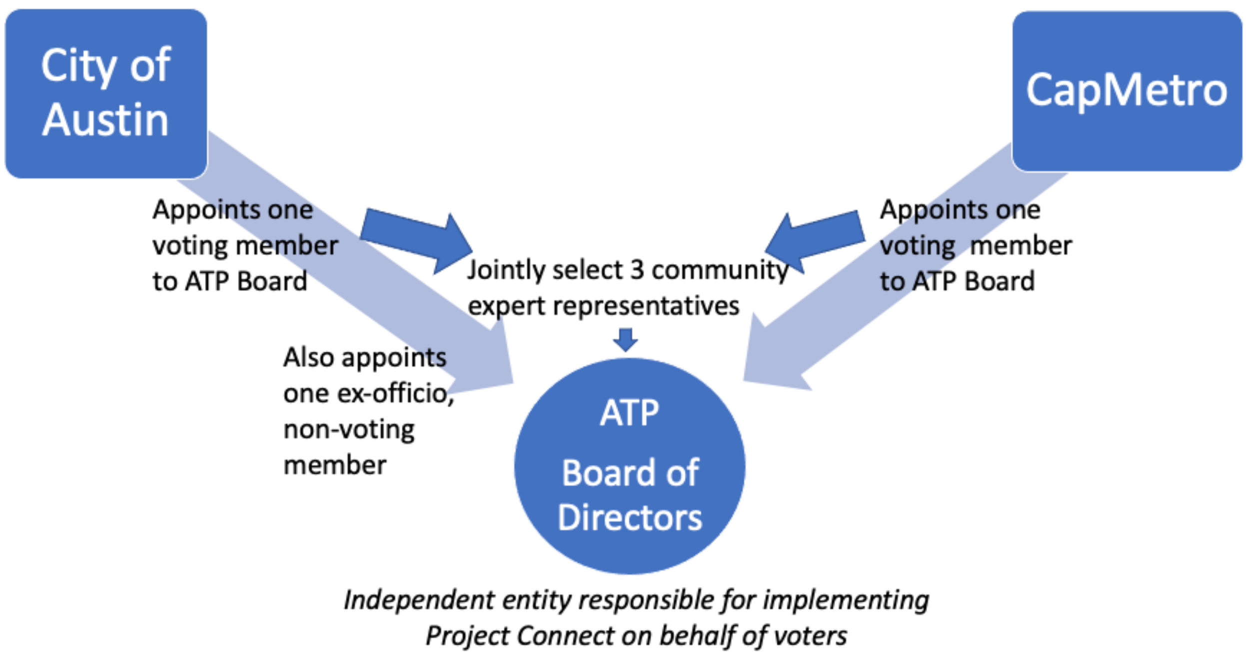
[10] For more information, see Contract with the Voters, Exhibit A: Initial Investment Map and associated Implementation Sequence Plan.
[11] See City of Austin Ordinance No. 20200812-009, August 7, 2020.
[12] Joint Powers Agreement Section 2.1; ATP Articles of Incorporation, Article IV. Purposes, Activities.

and Capital Metro. The timely delivery and success of Project Connect will require close collaboration and participation from all parties. This process must be clearly defined by a detailed contractual and governance structure that preserves flexibility, integrity and fosters accountability and trust.

2.0 Project Connect – Governance and Leadership

ATP is governed by an independent six-person board of directors, including one non-voting ex-officio member that is the Austin City Manager or their designee.[13] The City and Capital Metro each appoint one board member from their respective governing bodies to serve a two-year term.[14] The remaining three members are community expert board members and must be jointly approved by the City Council and Capital Metro Board for four-year terms.[15] Board members do not have term limits.[16]

Figure 1: ATP Board Structure



ATP was created in part to finance Project Connect with the legal authority as a corporation to use pledged revenue from the Prop A. Tax Revenue and other sources to issue revenue bonds.[17] In addition, the independent structure of ATP can help provide transparency, increase the speed of project delivery, reduce political risk, and simplify bureaucracy.[18]

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[13] ATP Articles of Incorporation, Article VI. Board.
[14] Ibid.
[15] Ibid.
[16] Ibid.
[17] TEX. TRANSP. CODE ANN. § 451.357(c) (2021).
[18] See: "Saving Time and Making Cents: A Blueprint for Building Transit Better", *Eno Center for Transportation*, July 2021.

Currently, the CEO of Capital Metro also serves as the executive director of ATP. According to ATP's Articles of Incorporation, the Capital Metro CEO was appointed the "initial Executive Director" of ATP.[19] The current executive director assumed this position, alongside his role as Capital Metro CEO, on January 20, 2021.[20] ATP's Bylaws state that the executive director is an officer of the ATP Board, appointed for a 2-year term, and may be re-elected or reappointed.[21] Unresolved is whether the same person serving as head of the operating agency, Capital Metro, and the project delivery entity, ATP, aligns with national and international best practices and is the best structure for Project Connect.

To answer this question, the Joint Powers Agreement (JPA), approved by all three parties in November of 2021, empowered the ATP Board to determine the appropriate leadership model for ATP after engaging in an independent analysis:

> 4.2.2 Executive Director. In accordance with the Bylaws, the ATP Board shall appoint an Executive Director. The ATP Board shall conclude an independent analysis to determine the appropriate leadership model for ATP no later than March 31, 2022. The independent analysis shall include a community engagement process with input from the CAC, technical advisory committees, and others. After careful consideration of such analysis, the ATP Board shall determine its leadership model in its sole discretion. Further, the ATP Board shall make any Executive Director appointments in its sole discretion. The ATP Board shall establish a community engagement process for such appointments which is appropriate for the appointment of senior leadership and similar to the process described above. The Executive Director of ATP shall be the chief executive officer of ATP and shall in general supervise and control all of the business and affairs of ATP.

This section of the JPA demonstrates that the ATP leadership model has been a matter of public interest and requires careful consideration. The final decision over the leadership structure, according to the JPA, is of the sole discretion of the ATP Board. Community input and lessons learned from other regions will be important factors in facilitating that decision.

Beyond the leadership and overall governance structure of ATP, several other factors must be considered as part of the governance and leadership decision. As directed by the ATP Board, the Independent Analysis will consider the following when evaluating best practices, as further outlined in the December 2021 ATP Board Resolution:[22]

Objectives and Priorities:

- Fulfill the Contract with the Voters
- Delivery on time and on budget

[19] ATP Articles of Incorporation, Article VI. Board.
[20] Austin Transit Partnership, Resolution No. ATP-2021-00, January 20, 2021.
[21] ATP Articles of Incorporation, Article VI. Board.
[22] Austin Transit Partnership, Resolution ATP-2021-036, Sections 2-3, December 15, 2021.

- Program equity
- Public trust and compliance with law

Key Factors for Consideration:

- Accountability
- Partnership with the City of Austin and Capital Metro
- Innovation and Industry Best Practices
- Financing for Project Connect
- Legal Considerations
- Contract Risk
- Community Participation
- Equity and Anti-Displacement
- Operational Readiness and Maintenance.
- Executive Director Recruitment

The roles of ATP, Capital Metro, and the City in executing, overseeing, and managing these key factors is a critical area of agreement needed for the smooth and timely execution of Project Connect. While the JPA and other Project Connect foundational documents outline the principal roles and responsibilities of the parties at a high level, a more formalized governance and contractual structure will be needed to clearly define each entity's roles and responsibilities. The appropriate leadership model for ATP should be designed to help ensure the fulfillment of the respective obligations and commitments of all parties, while preserving flexibility and maintaining public trust, transparency, accountability, and reliability.

3.0 Key Concepts in Governance

Governance for transit projects encompasses the interactions between various players within a region including, but not limited to, transit operators, local and state government, metropolitan planning organizations, advocacy organizations, community members, academic institutions, and other thought leaders. Interactions among each of these stakeholders ultimately lead to decision-making.

Research shows that transit projects can suffer or fail due to lack of focus on establishing the institutional structures that will ultimately deliver and operate the project.[23] There is no "right" way to approach governance, and in fact, each region in the United States has a different approach to organizing the implementation of transit services and capital projects.[24] In all cases, however, setting a clear structure for organizational decision-making responsibility and coordination with other agencies and transportation modes is important to the success of a project. In the United States, transit governance is largely the responsibility of state and local governments, each of which develop their own

[23] "Saving Time and Making Cents: A Blueprint for Building Transit Better", *Eno Center for Transportation*, July 2021.

[24] For a full examination of regional transit governance, see: "Getting to the Route of It", *Eno Center for Transportation*, 2015.

unique way of organizing transit networks and the institutions that implement and operate them.

Transit governance structures are heavily influenced by their various sources of funding. The principal costs for transit systems are divided into two categories: capital costs and operating costs. Transit operating funds come from a variety of state and local sources, including fares. Capital costs, including new construction and vehicles, are funded from state and local sources as well as federal grants. Most transit construction programs rely on short-term and long-term borrowing programs supported by these funding sources to close any funding gaps.

Most transit agencies have an independent board of directors and many are jointly owned or sponsored by two or more local agencies or governments. In a successful system, all parties work together closely and collaboratively, guided by a clearly defined contractual and governance structure.

In most regions, transit capital projects are carried out within the existing construction divisions of the same public authorities responsible for bus and rail operations. For example, regional transit agencies in both Houston and Dallas (Houston METRO and DART, respectively) manage transit operations as well as construction of new rail lines.

In some instances, independent SPDVs are used to deliver major projects. ATP is one such SPDV, and many other examples exist. In Los Angeles, independent SPDVs were created to build the Expo and Gold light rail lines, which were turned over to LA Metro to operate upon completion. Counties in the Seattle region created Sound Transit, a public corporation, to build out and operate the region's first light rail system independent from King County Metro, the existing regional bus operator. Honolulu created the Honolulu Authority for Rapid Transit (HART) in 2005 to deliver its first rail rapid transit project independent of existing city and county bus services.

SPDVs are more common in Europe, where they can help insulate projects from traditional bureaucracy, empower teams with a singular focus on building a project, and help regions that are building a megaproject for the very first time attract top talent. There, they are typically dissolved once the project is completed and all loans are paid off. The specific manner in which these independent SPDVs are organized can vary, but they are usually self-governed entities, empowered to manage the project's finances and make coordinated decisions about project delivery.

4.0 Governance Examples from Around the World

This section profiles four domestic and four international examples to provide more context and insight into the types of governance models used to build new transit projects. Given that the City and Capital Metro have created ATP as an SPDV to implement Project Connect, these examples come from other regions that have also created or used SPDVs specifically for the delivery of a transit project.

These examples are intended to provoke questions about what is important to the Austin community, and what issues ATP should consider when determining the appropriate leadership structure.

Domestic Governance Examples

1. Sound Transit (Seattle)
2. Metropolitan Washington Airports Authority - Silver Line Extension (Washington, D.C.)
3. Expo Line and Gold Line Construction Authorities (Los Angeles)
4. Honolulu Area Rapid Transit Authority (HART)

International Governance Examples

1. Crossrail (London)
2. Copenhagen Metro Company (formerly Ørestad Development Corporation)
3. MINTRA (Madrid)
4. Karlsruhe Independent Construction Authority (Germany)

In each case we explore the fundamental structure, relationship, and funding for the respective institutions as it relates to delivering transit capital projects. A fuller examination of case study regions will be included in the Final Report and may or may not include some or all of the same examples presented here.

4.1 Domestic Governance Examples

Sound Transit (Seattle)

When the Seattle region decided to expand rail transit in the region, it created a new entity, Sound Transit, to receive tax dollars and lead the development of the system.

Table 1: Sound Transit Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
1 Line - Initial Segment	July 2009	15.6	15%	$3.7 billion	$239 million
U-Link Extension	March 2016	3.2	100%	$1.6 billion	$511 million
Angle Lake Extension	September 2016	1.6	0%	$331 million	$207 million
Northgate Extension	October 2021	4.3	81%	$1.9 billion	$464 million

Source: Eno Transit Construction Cost Database

King County Metro (Metro) is a county-based organization that runs bus services in King County (which includes Seattle), with limited service to surrounding jurisdictions. Metro is a department within the King County government and does not have a standalone board of directors.

State legislation in the early 1990s gave Seattle-area counties the taxing authority to develop, implement, and operate a high-capacity transit system. The Central Puget Sound Regional Transit Authority (known as Sound Transit) is a public corporation created in 1993 by King, Pierce, and Snohomish counties to plan, build, fund, own, and operate a new transit system. Sound Transit opened its first light rail line in July 2009 and has since completed three extensions. Construction costs for the initial light rail line and subsequent extensions are detailed in Table 1 above.

Sound Transit is governed by an 18-member board of directors comprising elected officials from its member counties as follows:

- King County (10 members)
- Snohomish County (3 members)
- Pierce County (4 member)
- Washington State DOT Secretary (ex officio)

Following the creation of Sound Transit, voters approved a series of sales tax ballot measures to fund Sound Transit's system expansions. [25] In 1996, Seattle-area voters approved the Sound Move ballot measure, which included an increase in sales tax (0.4 percent) and motor vehicle excise tax (0.3 percent) to help fund a $3.9 billion regional transit system, including $1.7 billion towards its first light rail line. The project was also funded in part by a $500 million Full Funding Grant Agreement (FFGA) from the FTA, for which the newly created Sound Transit served as the project sponsor.

Later, voters approved two ballot measures known as Sound Transit 2 (2008) and Sound Transit 3 (2016) which authorized additional sales tax increases to further expand the system. Although sales taxes are the largest source of funding for Sound Transit, other significant revenues include property and motor vehicle taxes collected within Sound Transit's taxing district, as well as federal grants and fares.

Sound Transit has broad authority beyond a traditional SPDV, and does not transfer ownership of its projects once they are completed. Sound Transit leads all planning and environmental review processes, is the direct recipient of federal funds, and has issued bonds to finance capital projects, which are repaid using revenues from the sales and motor vehicle taxes it collects.

Sound Transit uses its revenues for both capital expansion as well as to fund operating expenses. In addition, Sound Transit owns all of its infrastructure, buses, and railcars. However, it does not employ any drivers or maintenance staff, instead contracting out with Metro and others. From the time Seattle's first light rail line opened in 2009, Metro, the primary transit operator in the Seattle region, has carried out operations and maintenance under contact with Sound Transit. More than 370 Metro employees worked on light rail service in 2018, providing $46 million in services. Metro also operates Sound Transit's commuter bus service and BNSF Railroad operates its commuter rail.

In 2019, Metro and Sound Transit renewed their agreement to continue integrated rail operations and management through at least 2023.[26] The joint agreement outlines how

[25] "Paying for Regional Transit", *Sound Transit,* undated.
[26] "King County Metro, Sound Transit reach agreement to continue integrated rail operations and maintenance through 2023", *King County*, April 29, 2019.

the two agencies work together to provide more efficient service and an improved customer experience. Additionally, the joint agreement between Metro and Sound Transit outlines responsibilities regarding cost containment, operating rules, and data reporting.

Metropolitan Washington Airports Authority – Silver Line Extension (Washington, D.C.)

The Silver Line of the Washington Metro system is currently being extended to connect Washington, D.C. to the employment and housing districts in Northern Virginia, including Dulles Airport. The Silver Line Extension project is being led by the Metropolitan Washington Airports Authority (MWAA) rather than the Washington Metropolitan Area Transit Authority (WMATA).

Table 2: MWAA Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
Silver Line Extension Phase 1	July 2014	11.7	4%	$3.3 billion	$279 million
Silver Line Extension Phase 2	Est. 2022	11.4	0%	$2.4 billion	$211 million

Source: Eno Transit Construction Cost Database

WMATA is the primary transit operator in the Washington, D.C. region, and was formed by an interstate compact in 1967 between the District of Columbia, the State of Maryland, and Commonwealth of Virginia. WMATA is governed by an eight-member Board:

- Commonwealth of Virginia (2 members appointed by the Northern Virginia Transportation Commission)
- State of Maryland (2 members appointed by the Washington Suburban Transit Commission)
- District of Columbia (2 members appointed by the D.C. City Council)
- Federal Government (2 members appointed by the General Services Administration Administrator)

All lines on the Washington Metro system were built by WMATA, except for the Silver Line. The Silver Line is a westward branch off the existing Orange Line, and is currently being extended to connect Dulles Airport and other regional destinations wholly in Virginia. As shown in Table 2, the first phase of the Silver Line Extension opened in July 2014 at a cost of $279 million per mile. The second phase of the extension is expected to open in 2022 at a cost of $211 million per mile.

Since the Silver Line does not connect any new destinations in Washington D.C. or Maryland, Virginia needed to find its own revenue source for the project. Virginia initially housed the Silver Line project planning, development, and oversight in the Virginia Department of Rail and Public Transportation (DRPT), a division of the Virginia Department of Transportation.

DRPT was the official FTA project sponsor from 2000 until 2008, when MWAA took over as the FTA project sponsor. This was a result of an agreement between the

Commonwealth of Virginia and MWAA that granted MWAA responsibility over operating the Dulles Toll Road and building the Silver Line with a portion of toll revenue being used to finance the project (See Table 3 below).[27]

Table 3: Silver Line Extension Funding Sources

Funding Source	**Phase 1 Share**	**Phase 2 Share**
Federal	30%	-
Commonwealth of Virginia	9%	12%
Fairfax County	13%	19%
Loudon County	-	10%
MWAA Funds from Aviation	-	8%
MWAA Funds from Toll Revenue	48%	51%
TOTAL	**$3.3B**	**$2.4B**

Source: Eno Transit Construction Cost Database; FHWA Project Profiles, 2020; MWAA

Nearly half of the funding for the project is from toll revenues generated by the Dulles Toll Road. Fairfax and Loudon counties' TIFIA loans will be repaid using annual appropriations from county budgets and special taxing districts that were created around the new Silver Line stations.[28] MWAA's TIFIA loan will be primarily repaid using toll revenue.[29] Phase 1 of the Silver Line received 30 percent of its funding through CIG grants from the FTA.

DRPT retained an oversight role on the project and served as a funding partner, while WMATA served as the technical lead during the NEPA process since WMATA will be the owner and operator of the line after construction.[30] WMATA was also the official FTA grantee during the NEPA process. Following completion of the NEPA process, grantee status was transferred to MWAA.

MWAA is governed by a 17-member board appointed by the mayor of Washington, D.C., the President of the United States, and governors of Maryland and Virginia as follows:

- VA Governor Appointees (7 members)
- MD Governor Appointees (3 members)
- Washington, D.C. Mayoral Appointees (4 members)
- U.S. Presidential Appointees (3 members)

MWAA retains ownership and care of the facility while WMATA begins operational testing. Phase 1 was completed in 2014 and the asset ownership and operation are with WMATA. Only after successful completion of testing will Phase 2 be turned over to WMATA for ownership and operation.

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[27] "NCHRP Report 827 Appendix A Case Study: Dulles Corridor Metrorail Project, Northern Virginia", 2016.
[28] "Loudoun Closes on TIFIA Loan for Dulles Rail Project; Officials Praise Financial Benefits", *Loudon County Virginia*, December 2014.; "Fund 40120 Dulles Rail Phase II Transportation Improvement District", *Fairfax County*, 2020.
[29] "Appendix A Case Study: Dulles Corridor Metrorail Project, Northern Virginia", NCHRP Report 827, 2016.
[30] "NCHRP Report 827 Appendix A Case Study: Dulles Corridor Metrorail Project, Northern Virginia", 2016.

Expo Line and Gold Line Construction Authorities (Los Angeles)

In the past two decades, the Los Angeles region has successfully utilized two independent construction authorities to deliver its Gold and Expo light rail lines as part of its larger overall capital expansion program.

Table 4: Gold and Expo Line Construction Authorities Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
Expo Line Phase 1	April 2012	8.6	2%	$1.2 billion	$147 million
Expo Line Phase 2	May 2016	6.6	6%	$1.5 billion	$225 million
Gold Line - LA to Pasadena	July 2003	13.7	5%	$1.2 billion	$91 million
Gold Line Foothill Extension Phase 2A	March 2016	11.5	8%	$844 million	$73 million

Source: Eno Transit Construction Cost Database

The largest existing transit capital expansion program in the United States is in Los Angeles, California. The region has built over 100 miles of light rail and heavy rail since 1990 and has several ongoing projects that will add dozens of additional miles to the system. Most current projects are being managed directly by the capital division of the Los Angeles Metropolitan Transportation Authority (LA Metro), the region's largest transit operator. But two of the lines, the Expo Line (light rail, 15.2 miles) and the Gold Line (light rail, 25.2 miles) were built by independent construction authorities.

These lines also happen to be some of the lowest cost light rail projects in the United States. Both phases of the Expo Line were built at a cumulative cost of $178 million per mile and both phases of the Gold Line were built at a cumulative cost of $81 million per mile.[31] Construction costs for all phases of the Expo and Gold Line are shown in Table 4.

These construction authorities were created by the California Legislature in part due to concerns over LA Metro's ability to manage projects in the 1990s.[32] The State gave them authority to issue debt, receive public funds (federal, state, county, and local), enter into contracts, and acquire land. The authorities entered into cooperative agreements with LA Metro and numerous other jurisdictions to establish roles and responsibilities at various stages of project delivery. The agreements also establish the role of LA Metro in the design review and operational testing phases of the project. These authorities retained independent boards consisting of representatives from the surrounding municipalities and LA Metro. They also retained separate staff from LA Metro, although some leadership came to the authorities from LA Metro.

[31] See: "Saving Time and Making Cents: A Blueprint for Building Transit Better", *Eno Center for Transportation*, July 2021.

[32] "California Senate Bill No. 1847, Chapter 1021."

Gold Line

The Gold Line Construction Authority – formerly known as the Pasadena Metro Blue Line Construction Authority – was created by the California Legislature in 1998.[33] The authority was tasked with building the initial segment of the Gold Line from downtown Los Angeles to Pasadena, which opened in 2003. The authority is currently building an extension of the Gold Line (the "Foothill Extension") further east from Azusa to Montclair through San Bernardino County. The first phase of the Foothill Extension between Pasadena and Azusa opened for service in March 2016.

LA Metro separately delivered an extension of the Gold Line from the southern end of downtown to east Los Angeles, known as the "Eastside Extension". The six-mile Eastside Extension opened in 2009 at a cost of $210 million per mile; this segment was not planned or delivered by the Gold Line Construction Authority.[34]

Since the initial phase of the Gold Line, the Gold Line Construction Authority has been governed by a six-member board (one of which is a non-voting member) appointed by the following jurisdictions:

- City of Los Angeles (1 member)
- City of Pasadena (1 member)
- City of South Pasadena (1 member)
- San Gabriel Valley Council of Government (1 member)
- LA Metro (1 member)
- Governor of California appoints one non-voting member

The Gold Line Construction Authority has retained the same six-person board structure but has added three additional non-voting members: two of which are from the cities of Pasadena and South Pasadena, and one appointee from the San Bernardino County Transportation Authority (SBCTA), which is funding a segment of the extension within San Bernardino County.[35]

Additionally, the Gold Line Construction Authority has established a second board known as the Gold Line Phase 2 Joint Powers Authority (JPA) to guide the Foothill Extension. The JPA consists of elected officials from the 14 municipalities along the new extension, as well as SBCTA. City managers from each city in the JPA are also part of a Technical Advisory Committee, which provides further input and technical guidance for the Foothill Extension.

For the Foothill Extension (and similar to past extensions), the Gold Line Construction Authority entered into a Master Cooperative Agreement (MCA) with LA Metro, which governs both agencies' participation in the Foothill Extension. Under the MCA, the Gold Line Construction Authority will issue and manage the design and construction contracts for the project, while LA Metro's participation is intended to ensure that the

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[33] "California Senate Bill No. 1847, Chapter 1021."; "About Us", *Metro Gold Line Foothill Extension Construction Authority,* undated.

[34] See: "Saving Time and Making Cents: A Blueprint for Building Transit Better", *Eno Center for Transportation*, July 2021.

[35] "Board of Directors", *Metro Gold Line Foothill Extension Construction Authority*, undated.

extension is compatible and fully integrated with its existing light rail system. LA Metro's specific roles include retaining inspection rights, participating in the design review process, reviewing scope changes, participating in the operational readiness testing and final safety certification of the line, and participating as a voting member of the selection committee that awards the design/build contracts.

While the Gold Line Construction Authority prepared all environmental impact statement documents for its projects, LA Metro retains significant responsibilities, including leading the planning and management of the Gold Line Construction Authority's funding sources.[36] For example, the Foothill Extension is primarily funded by revenue from two voter approved sales tax measures (Measure R and Measure M), which flow directly to LA Metro and are then transferred to the Gold Line Construction Authority to complete the work.[37] The Gold Line Construction Authority can borrow funds through a private design-build-finance arrangement but instead, LA Metro has issued bonds secured by Measure R and Measure M sales tax revenues, with bond proceeds transferred to the Gold Line Construction Authority.[38] The segments of the Gold Line built by the Gold Line Construction Authority did not use any federal grant funding, though federal CIG grants provided nearly half of the funding for the Eastside Extension, delivered separately by LA Metro.[39]

Expo Line

The Exposition (Expo) Line Construction Authority was established by the California Legislature on October 10, 2003.[40] The Expo Line Construction Authority was given responsibility for awarding and overseeing contracts for final design and construction of the Expo Line.

The Expo Line Construction Authority was governed by a five-member board, consisting of elected officials from surrounding municipalities, Los Angeles County, and a representative from LA Metro. The composition of the board included:

- Santa Monica City Council (1 member)
- Culver City Council (1 member)
- Los Angeles County Board of Supervisors (2 members)
- Los Angeles Metro (1 member)
    - The CEO of LA Metro served as an ex officio, nonvoting member of the board.

The Expo Line Construction Authority's board was authorized to appoint its own executive director, accept funds from federal, state, local, and private sources, acquire

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[36] "Gold Line Phase II: Pasadena to Montclair-Foothill Extension Final Environmental Impact Report", *LA Metro*, February 2007.
[37] "Annual Report on Funding Recommendations: FY 2013", *Federal Transit Administration*, 2012.
[38] "Pasadena Star-News – Metro to sell bonds, front funds for Foothill Extension Phase 2A", *Metro Gold Line Foothill Extension Construction Authority*, November 1, 2010; The extension also received state funding in the form of a $300 million grant through California's Transit and Intercity Rail Capital Program. The Claremont to Montclair portion of the extension is being funded entirely by San Bernardino County. Those funds are transferred to the Gold Line Construction Authority to pay for construction activities.
[39] Jeff Davis, "The Last 15 Years of New Start Grant Agreements", *Eno Center for Transportation,* March 06, 2020.
[40] "California Senate Bill No. 504, Chapter 827."

property through eminent domain, enter into contracts, relocate utilities, and enter into cooperative agreements with local governments or private entities. Similar to its role during the construction of the Gold Line, LA Metro was involved in reviewing design and construction documents, participating in operational testing to ensure compatibility of the line with its existing rail system, and approving any major changes in scope. LA Metro prepared the Phase 1 environmental documents and the Expo Line Construction Authority prepared the Phase 2 environmental documents.[41]

Both phases of the Expo Line were funded primarily using revenue generated from the one-cent sales tax measure approved by Los Angeles voters for transit projects (Measure R). Neither phase of the Expo Line used federal grant funding.

Upon completion of their respective projects, the construction authorities hand over ownership of the infrastructure to LA Metro to operate and maintain.

Honolulu Area Rapid Transit Authority

The Honolulu region created the Honolulu Area Rapid Transit Authority (HART), to design, fund, build, and operate its new light rail system.

Table 5: HART Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (USD 2020)	Cost per Mile
Honolulu Rail Transit	Estimated 2022	20	0%	$12 billion	$600 million

Source: Honolulu Civil Beat[42]

Honolulu's existing transit system, TheBus, is a bus-only network operated by O'ahu Transit Services, Inc., a nonprofit company jointly created by the City and County of Honolulu. Given longstanding traffic congestion along Honolulu's urban corridor, the State and the City established the Honolulu Rail Transit Project in 2005. The project consists of a single, 20-mile, automated, elevated light rail line that connects 21 stations, including Aloha Stadium, Pearl Harbor, Honolulu International Airport, and downtown Honolulu, which is Oahu's core commercial and business center.[43] The program has been plagued by significant delays and cost overruns. As shown in Table 5, the $5.1 billion project is now expected to cost $12 billion and has still yet to open.[44]

The City and County of Honolulu (a single, combined governmental entity) started the official planning of the project in 2005 and released an alternatives analysis in November 2006. At the same time, Honolulu and the State of Hawaii formed the Honolulu Area Rapid Transit Authority (HART), a semi-autonomous public authority. It

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[41] "Exposition Light Rail Phase II Draft Environmental Impact Report Appendix C: List of Preparers", *Los Angeles Metro*, 2009; "Los Angeles Mid-City Westside Transit Corridor Mid-City Exposition Light Rail Transit Project (aka Expo Phase I): Final Environmental Impact Statement/ Environmental Impact Report (FEIS/R)", *Los Angeles Metro*, October 2005.
[42] "Rail transit system cost estimate: $3 billion", *Honolulu Advertiser*, June 23, 2006; "For Cost Overruns, Honolulu Rail Is In A League Of Its Own, New Data Shows", *Honolulu Civil Beat*, August 9, 2021.
[43] "Annual Report on Funding Recommendations: FY 2013", *Federal Transit Administration*, 2012.
[44] "Rail transit system cost estimate: $3 billion", *Honolulu Advertiser*, June 23, 2006; "For Cost Overruns, Honolulu Rail Is In A League Of Its Own, New Data Shows", *Honolulu Civil Beat*, August 9, 2021.

is tasked with managing the planning, construction, operation, and maintenance of the light rail system in Honolulu.

HART is governed by a separate, 14-person board of directors, where several local transportation executives serve in ex officio roles:

- Mayor of Honolulu (3 appointees)
- Honolulu City Council (3 appointees)
- Hawaii Legislature (4 members)
- Hawaii Director of Transportation (voting member)
- City Director of Transportation Services (voting member, currently also the executive director of TheBus)[45]
- City Director of Planning and Permitting (non-voting member)
- The voting members above appoint the 14th member by a majority vote

Once the basis for the rail project plan was established, the City and State handed over the responsibility of the project to HART. HART completed and submitted the environmental review documents to the FTA, which were approved with a record of decision in January 2011.[46]

HART is also responsible for overseeing the Honolulu light rail project funding. The project was originally projected to cost $5.1 billion. The FTA awarded HART, the direct grantee and project sponsor, with $1.5 billion in CIG funding.[47] HART also used bonding for the remaining capital costs, which were secured by leveraging future federal funds as well as proceeds from a local half-percent General Excise and Use Tax (GET) on goods and services purchased on Oahu. The GET funding is dedicated to HART from 2007 through 2027.[48]

Amid cost overruns and major delivery challenges on the project, there have been debates and unsuccessful attempts to transfer management of the project directly to the City.[49] Additionally, HART and the City had intended to jointly procure a private partner to assist in construction, operation, and financing of the final leg of the system, but the City pulled out of the procurement in 2020.[50]

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[45] "Company Fact Sheet", *Oahu Transit Services*, 2021.
[46] "Honolulu Rail Transit Project: Final Supplemental Environmental Impact Statement/Section 4(f) Evaluation and Amended Record of Decision", *Federal Transit Administration*, September 30, 2013.
[47]"Annual Report on Funding Recommendations: FY 2014", *Federal Transit Administration*, 2013.
[48] "FAQs – How will we pay for it?", HART Rail Facts, *HART*, 2022.
[49] Gordon Y.K. Pang, "HART board says 'no' to dissolution, warns it would imperil rail project", *Honolulu Star Advertiser*, August 6, 2019.
[50] Kim Slowey, "Honolulu transit officials reveal reason for canceled P3 procurement", *Construction Dive*, October 6, 2020.

4.2 International Governance Examples

Crossrail (London)

The UK Department for Transport and Transport for London jointly created an independent entity, known as Crossrail Limited (CRL), to design and construct the $25 billion Crossrail project, which will build 13.7 miles of new rail across London.

Table 6: Crossrail Limited Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
Crossrail (Elizabeth Line)	Estimated 2022	13.7	100%	$7.6 billion*	$555 million

Source: Regional Plan Association[51]
**Cost of the 13.7 mile portion of new, tunneled track*

The $25 billion Crossrail project is one of Europe's biggest rail projects. The primary element of Crossrail is the new 60-mile, east-west Elizabeth Line, of which 13.7 miles is new track. The Elizabeth Line will connect existing rail lines and communities across the Greater London region, and be the first completely new underground line in London for more than 30 years upon its opening in 2022. As shown in Table 6 above, the portion of the Elizabeth Line that consists of new track is being built at a cost of $7.6 billion ($555 million per mile).

The project is being funded through a mix of direct government contributions and grants, contributions raised through the Crossrail business rate supplement and community infrastructure levy, passenger fares, and additional financial contributions from key beneficiaries of the project, such as real estate developers and Heathrow Airport.[52]

The Crossrail project has two sponsors, the UK's Department for Transport (DfT) and Transport for London (TfL), which is the primary transit operator in the region. The sponsors are the clients of the project.

The project is being delivered by a separate publicly-owned company known as Crossrail Limited (CRL). CRL was originally established in 2001 as a 50/50 joint venture company between TfL and DfT. Its role then was to promote and develop new lines. The Crossrail Act of 2008 gave the legal authority necessary to build the line and for the government to nominate CRL as the entity responsible for delivery of the project.[53] CRL became a wholly owned subsidiary of TfL on December 5, 2008. Governance responsibility of the Crossrail project was transferred to TfL in October 2020 as part of the preparations for operation in 2022. CRL still remains a subsidiary of TfL, but reports directly to TfL rather than its own board.

[51] "Building Rail Transit Better for Less", *Regional Plan Association,* February 2018.
[52] "Report by the Comptroller and Auditor General – Crossrail", *National Audit Office,* January 2014
[53] William Tucker, "Crossrail project: the execution strategy for delivering London's Elizabeth Line", *Proceedings of the Institution of Civil Engineers*, September 2016.

Prior to October 2020, CRL was governed by an eight-person independent board of directors. The board included three of CRL's executive directors (CEO, Financial Director, and Program Director).[54] Of the other five members, four members were appointed by TfL and the Department for Transport; the fifth member was appointed by the other seven board members. CRL's CEO and Finance Director, alongside other CRL staff, were loaned from TfL. These staff members relinquished their TfL roles for the duration of their tenure at CRL. A CRL committee established compensation for the loaned staff members in conjunction with TfL.[55]

A core principle for the governance structure during the design and construction phases of CRL was the clear separation of the "sponsor group" (TfL and Department for Transport) and the "delivery group" (the executive team at CRL) delivering the project.[56] DfT and TfL established a separate joint sponsor board consisting of top officials from each organization. This sponsor board served as a top level of oversight for the Crossrail project and as a forum for the sponsors to review performance of the Crossrail project and make joint decisions. The CRL board did not directly report to the sponsor board, but CRL staff provided regular updates on project status to the sponsor board.[57]

The delivery group, on the other hand, included CRL's executive group and project management team. CRL managed the overall costs of the project and reported them to TfL and the Department for Transport. The CRL board was accountable for the overall direction and management of the project and was the ultimate decision-making authority for project delivery.[58]

As the project approached the phase of transitioning to operations, responsibility over governance for Crossrail was transferred to TfL on October 1, 2020, with TfL conducting operational testing in anticipation of the line's opening in 2022.[59] Both the CRL Board and sponsor group were replaced with the Elizabeth Line Committee, which includes three former members of the CRL Board, London's Deputy Mayor for Transport, and two members from the TfL Board.[60] Beneath the Elizabeth Line Committee is a readiness group consisting of senior officials from TfL, CRL, and the London Underground that provide oversight of project completion and transition arrangements.[61] While CRL now reports to TfL instead of its own board, it still retains its senior leadership and executive director. CRL is intended to remain a corporate subsidiary of TfL for financial and tax purposes, but once the line is operational, it will no longer retain any special boards or committees.[62]

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[54] "Independent Review of Crossrail – Governance", *KPMG,* January 23, 2019.
[55] "Ibid.
[56] Ibid.
[57] Ibid.
[58] William Tucker, "Crossrail project: the execution strategy for delivering London's Elizabeth Line", *Proceedings of the Institution of Civil Engineers*, September 2016.
[59] "Board Chair Action: Crossrail – Governance Transition", *Transport for London*, September 2020.
[60] Ian Weinfass, "New Crossrail scrutiny group reveals members", *Construction News UK,* October 23, 2020.
[61] "Crossrail: Light at the end of the tunnel?", *London Assembly Transport Committee*, February 2021.
[62] "Board Chair Action: Crossrail – Governance Transition", *Transport for London*, September 2020.

Copenhagen Metro Company (formerly Ørestad Development Corporation)

The Danish national government and Municipality of Copenhagen created a state-owned corporation to in 1993 to plan, build, and operate the region's first rapid transit system. This corporation was also tasked with redeveloping publicly owned land and using the proceeds to fund construction of the Metro.

Table 7: Copenhagen Region Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
M1 and M2 Lines	September 2007	13	48%	$2.3 billion	$176 million
City Circle Line	March 2020	9.6	100%	$3.8 billion	$393 million
M4 to North Harbor	March 2020	0.9	86%	$491 million	$546 million
Greater Copenhagen Light Rail	Estimated 2025	17.4	0%	$1.2 billion	$69 million

Source: Eno Transit Construction Cost Database

The Ørestad Development Corporation was the state-owned, special purpose corporation created in 1993 to redevelop Ørestad, a former military training ground in Central Copenhagen owned jointly by the Danish Ministry of Finance (45 percent) and Municipality of Copenhagen (55 percent). Its original board contained three members appointed by the Municipality of Copenhagen and three appointed by the Danish Ministry of Transport.[63] The Corporation was also tasked and given the authorities to build and operate the initial phase of the Metro, the region's first underground, automated metro system.[64] The first two lines of the Metro opened in September 2007, followed by two additional lines in March 2020. Construction costs for each phase of the Metro, as well as the new light rail line currently under construction, are included in Table 7.

The Copenhagen Metro is unique in being funded entirely through revenue generated from the redevelopment of publicly owned land, a mechanism known as value capture. During the late 1980s and early 1990s, both the municipality of Copenhagen and Denmark faced a stagnant economy and high unemployment. As part of a major effort to re-invigorate the capital region, the national and local governments partnered to identify ways to boost the city's tax base, attract new residents, and spur economic development. The resulting proposal was to redevelop Ørestad, a 0.58 square mile area of undeveloped former military training ground in south Copenhagen jointly owned by Denmark and the Municipality of Copenhagen, and to use the revenue from the increased property value to fund the Metro.

The Ørestad Development Corporation took out long-term, 30-40 year loans as it set out to redevelop the Ørestad region and build the Metro. These loans would be paid back using property taxes, fares, and revenues from the sale of publicly-owned land. The

[63] S.J.H Majoor, "Disconnected innovations: new urbanity in large-scale development projects: Zuidas Amsterdam, Ørestad Copenhagen and Forum Barcelona", *University of Amsterdam*, 2008.
[64] Bruce Katz and Luise Noring, "The Copenhagen City and Port Development Corporation: A Model for Regenerating Cities", *Brookings Institution*, 2017

increase in tax revenue from resulting land value improvements would go to the development corporation, rather than the city, until the loans were fully paid. The Corporation had a roughly $2 billion debt cap (€1.7 billion).[65]

In 2007, the transit and urban redevelopment arms of the Ørestad Development Corporation were spun off into two separate entities, with Metroselskabet (Metro Company) taking over transit construction and operations. Metroselskabet is governed by a nine-member board of directors. The Danish Government and City of Copenhagen each appoint three members, and the suburban City of Fredericksberg appoints one member. The remaining two members are elected by the employees of Metroselskabet. All board members serve four-year terms.[66] Metroselskabet's day-to-day affairs are managed by an independent CEO and a four-person group of directors.

In addition to serving as a partial shareholder of Metroselskabet, the national government's role is primarily to approve projects through the passage of construction acts in parliament, approve environmental review documents, and grant safety approvals. The region's municipalities serve as the authority for granting building permits for most major projects, as well as helping prepare environmental review documents.

A new 17.4-mile Greater Copenhagen Light Rail project is being delivered by Hovedstadens Letbane, a separate publicly-owned company that shares a CEO with Metroselskabet. All of Hovedstadens Letbane's staff members are also from Metroselskabet. This arrangement has allowed the existing staff and construction expertise at Metroselskabet to be transferred to the new light rail project, rather than starting over from scratch. This light rail corporation is owned by 11 suburban municipalities as well as the Capital Region (the Copenhagen regional government).[67] Hovedstadens Letbane is governed by a nine-person board: three members are appointed by the Capital Region, and three are appointed by the Mayor's Forum (the group of mayors from each of the 11 municipalities that formed the company). The Mayor's Forum and Capital Region jointly appoint the remaining three members.

In contrast to the Metro, which is funded through land value capture, the city's light rail is funded directly by financial contributions from member cities, as it operates on existing right-of-way through suburbs that are already fully built out. While the national government is not a shareholder of the light rail corporation, it is covering 40 percent of the project cost. The municipalities are jointly responsible for 34 percent of construction costs, while the Capital Region will cover the remaining 26 percent.[68] The municipalities' share of construction costs is calculated according to population, the number of stations in each municipality, and projected growth rates. Like the Metro, the municipalities are all shareholders of the light rail project and Hovedstadens Letbane, including all risk, construction costs, and operating expenses. As a result, any cost overruns on the light rail project will be shared amongst the municipalities.

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[65] Nina Kampmann, "Project Finance", *Copenhagen Metro Inaugural Seminar, 2002*.
[66] Metroselskabet 2019 Annual Report
[67] "About Us", *Hovedstadens Letbane*, undated.
[68] Ibid.

MINTRA (Madrid)

The Madrid regional government created an independent, publicly owned corporation to deliver a major subway expansion project in the late 1990s and early 2000s.

Table 8: MINTRA Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
1999-2003 Subway Expansion	March 2003	46.3 miles	77%	$7.5 billion	$162 million

Source: Eno Transit Construction Cost Database

MINTRA was a public company chartered by the Madrid regional government and tasked with financing and building the region's subway expansions in the late 1990s and early 2000s. As detailed in Table 8, MINTRA has built over 46 miles of subway between 1999 and 2003 for $162 million per mile, ranking among the lowest cost transit buildouts in the world.[69]

Public transit systems are funded and managed by Madrid's regional government, which contains the City of Madrid and 178 other municipalities.[70] The regional government plans, funds, constructs, and operates transit infrastructure through its subsidiaries, municipalities, and other organizations in which it has a stake.

The regional government, through its public works department, delivered the 1995-1999 subway expansion directly. However, the regional government's infrastructure ministry did not have enough financing capacity to issue bonds directly for future expansions. As a result, the regional government formed MINTRA in 1999 as a SPDV responsible for designing, constructing, and sometimes maintaining subway segments as well as raising debt to fund construction. Members of MINTRA's Board of Directors were appointed by the Madrid regional government.[71] The CEO of MINTRA was appointed by its board. As MINTRA was considered a private entity, MINTRA's massive debt was not on the government's books. Being owned by the regional government, however, made holders of MINTRA's debt confident that it had government backing, allowing MINTRA to borrow money at competitive rates.[72]

MINTRA served as the owner of the infrastructure it built and originally rented the track to Madrid Metro for operations, but eventually transferred ownership of the lines altogether. MINTRA was dissolved in 2011, and ownership of its assets were transferred to the Madrid regional government. Madrid Metro owns, maintains, and operates the region's subway infrastructure. It has a nine-person board of directors, all of whom hold offices in the regional government or the regional transportation coordinating agency.[73]

[69] "Madrid Metro Line—Access to Barajas Airport Ex-Post Evaluation of Investment Projects Co-Financed by the ERDF", *European Commission*, 2012.
[70] Consorcio Regional de Transportes de Madrid 2018 Annual Report.
[71] "Law 22/1999 on the Creation of the Public Law Entity MINTRA", December 21, 1999.
[72] Ryan Holeywell, "Public-Private Partnerships Are Popular, But Are They Practical?", *Governing*, November 2013.
[73] "2018 Annual Report", *Madrid Metro*, 2019.

The Consorcio Regional de Transportes de Madrid (CRTM) is a regional transportation authority charged with organizing and coordinating all public transit modes in the region. Specifically, it plans transit infrastructure, establishes an integrated fare and information system, and coordinates transit services as well as distributes funding and resources to operating entities.[74] The CRTM Board of Directors consists of 20 members including 12 local and regional representatives, and two members each from the national government, trade unions, and the business community. One member is appointed from the riders' union.[75]

Karlsruhe Independent Construction Authority

The German city of Karlsruhe recently completed a major project to bury downtown tram lines with more than 3 miles of new tunnels. The city created an independent construction authority to manage the construction, with whom it shares executive leadership.

Table 9: Karlsruhe Construction Authority Projects Undertaken Since 2000

Project	Opened	Length (miles)	Percent Tunneled	Cost (2020 USD)	Cost per Mile
Karlsruhe Combined Solution	December 2021	3.1	72%	$2.2 billion	$702 million

Source: Eno Transit Construction Cost Database

Karlsruhe is a mid-sized city of 308,000 residents that is home to a dense network of at-grade tram lines and a longer network of regional rail and bus services. Given that many of the lines meet in the congested downtown area, the city embarked on the Karlsruhe Combined Solution, an infrastructure project that buried 3.1 miles of tram lines in two separate sections.

To build the tunnels, the City created an independent authority to manage construction. The tunnels took more than 12 years to build, and had several significant cost overruns, attributable to a number of factors including issues with contractors, accommodating community pushback, and geotechnical problems.[76] As outlined in Table 9, the tunnels opened for service in 2021 and cost $702 million per mile.

Transit in the Karlsruhe region is governed by several distinct entities, summarized below:

The Karlsruhe Public Utilities, Public Transport, and Port Company (KVVH) is the municipal subsidiary that oversees all city-based municipal utilities, transportation, and public works. Several other organizations, listed below, are independent public corporations owned by KVVH. KVVH is overseen directly by the Mayor of Karlsruhe.[77]

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[74] Ryan Holeywell, "Public-Private Partnerships Are Popular, But Are They Practical?", *Governing*, November 2013.
[75] Ryan Holeywell, "Public-Private Partnerships Are Popular, But Are They Practical?", *Governing*, November 2013.
[76] "The "Kombilösung" (combined solution) for Karlsruhe", *Eguana*, 2022; Lars Notararigo, "Über Jahre unter Tage: Eine Bilderreise durch die Geschichte der Karlsruher Kombilösung", Ka-news, December 9, 2021.
[77] "About Us: Organization", *KVVH - Karlsruhe Supply, Transport and Port GmbH and KVVH Group*, 2022.

The Karlsruhe Transport Authority (Verkehrsbetriebe Karlsruhe, or VBK) operates seven tram routes, a funicular railroad, and a network of bus routes. VBK is wholly owned by KVVH, the public utility company, and has an independent 15-member board of directors. The Mayor serves as the Board Chairman, eight members are representatives from the City Council, five members are employee representatives, and one is a community member with no listed affiliation.[78]

The Albtal-Verkehrs-Gesellschaft mbH (AVG) is the agency that operates S-bahn (commuter rail) in the wider Karlsruhe region. AVG is partially owned by KVVH and is governed by a 15-member board that is also chaired by the Mayor of Karlsruhe. However, the other board members do not necessarily overlap, and this board includes several seats for other jurisdictions around the region and five employee representatives.

Like other regions in Germany, the region has a regional coordination organization called Karlsruhe Transport Association (KVV). KVV oversees regional fare integration, transit planning, and financial and other organizational agreements between VBK, AVG, and 18 other smaller transit operators in the region. KVV is jointly owned by the City of Karlsruhe, the District of Karlsruhe, the District of Rastatt, the City of Baden-Baden, the District of Germersheim, the City of Landau, and the District of Südliche Weinstraße.[79] KVV has a 28-member board, with the Mayor of Karlsruhe as the chairman.

A construction authority, Karlsruhe Rail Infrastructure Company (KASIG), was created in 2003 specifically to oversee the planning, construction, and financial management of the Karlsruhe Combined Solution. KASIG is organized as a government company wholly owned by KVVH but with an independent board of directors. The executive board has 16 members, with the Mayor of Karlsruhe serving as the board chair. The other seats include ten members of the City Council and five representatives from the community, including an employee representative.[80] KASIG has managed the project and is the direct recipient of federal, state, and local grants to fund construction.

Unique from a governance standpoint, all the organizations listed above (KVVH, VBK, AVG, KVV, and KASIG) share the same executive director. Since 2014, Dr. Alexander Pischon has served as the CEO of these companies.[81] Also consistent is the Mayor's role as board chair for each organization.

5.0 Preliminary Takeaways and Conclusions

This preliminary report is intended to provoke questions from the community and stakeholders in Austin about how the region should structure the governance and responsibilities of ATP. These questions and considerations will be further examined in the case studies and final report to be delivered to the ATP Board in March 2022.

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[78] "Company: Organization", *Verkehrsbetriebe Karlsruhe(VBK)*, 2021.
[79] "Organization: Shareholders, Supervisory Board & Management", *KVV*, 2022.
[80] "Managing Directors", *Karlsruher Schieneninfrastruktur-Gesellschaft mbH*, 2021.
[81] "Speaker Bio: Alexander Pischon", *2023 UITP Global Public Transport Summit*, 2022.

As part of that process, we are seeking community input and questions on how the governance of Project Connect might address:

- Maintaining organizational accountability to the public
- ATP's partnership with the City of Austin and Capital Metro
- Enabling innovation and industry best practices
- Directing different revenue and borrowing resources, including federal grants
- Understanding legal considerations and constraints
- Managing contract risk, safety oversight, and workforce development
- Ensuring robust community participation
- Investing in equity and anti-displacement strategies
- Preparing for operational readiness and long-term maintenance

As the eight examples in this report illustrate, regions in the United States and abroad have taken a variety of approaches to building public transit using independent organizations. Independent SPDVs can take on many different structures – some are created jointly by two or more sponsors (like Capital Metro and the City of Austin with ATP), while some are subsidiaries of a single entity (like MINTRA and the Madrid regional government or Crossrail and TfL).

Among the key considerations for the ATP Board is to determine the structure of ATP's executive leadership, namely whether ATP should continue to share an executive director with Capital Metro. While there are no domestic examples of shared leadership, project delivery leadership in Copenhagen and Karlsruhe serve as relevant examples to guide questions on how a shared leadership model could look. On the other hand, examples from Los Angeles and London can guide questions on how a separate leadership model would be structured.

In addition to determining a leadership model, the ATP Board will also have to further outline the specific roles and responsibilities of each organization in various stages of Project Connect. Establishment of roles, reporting structures, and responsibilities across organizations are necessary to ensure Project Connect's leadership aligns with program priorities, including but not limited to ensuring operational readiness, minimizing risk, ensuring cooperation with Capital Metro and the City of Austin, and maintaining accountability. In Los Angeles, for example, LA Metro participated in the design review, contract awarding process, and retained inspection and testing rights over the physical infrastructure while the independent authorities were responsible for managing the construction of the project. In London, governance of the Crossrail project was wholly transferred to TfL from CRL after construction to allow the agency to conduct operational testing and review. These varying arrangements between domestic and international SPDVs and their partner organizations can help provoke questions about the specific areas of responsibility that ATP, Capital Metro, and the City of Austin will need to refine.

The governance structure of Project Connect will also have implications for financing and the receipt of federal grants. Another key determination is whether ATP or Capital

Metro will serve as the official project sponsor and federal grant recipient for Project Connect. SPDVs in the United States have taken a variety of different approaches to project sponsor and grantee status. In Seattle, the newly formed Sound Transit served as the official project sponsor and federal grant recipient when building its first light rail line in the late 1990s/early 2000s. Similarly, the official project sponsor and federal grant recipient for the Silver Line Extension is MWAA, which is carrying out construction. In the case of the Silver Line Extension, however, project sponsor and grant recipient status changed several times. This suggests that while the entity primarily responsible for construction tends to serve as the official project sponsor and federal grant recipient, project sponsor and grantee status can shift throughout various stages of project development.

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The next phase of this independent analysis will include a more thorough examination of six case studies both in and outside of the United States. These case studies will include interviews with leadership and decisionmakers in each region to discern how they structured their organizations, why they chose the models they did, what they might have done differently, and what recommendations they would have for the Austin region. Insights from these examples can help community members and stakeholders identify these considerations and inform the region's decisions on the leadership and governance of Project Connect.

The final report is to be delivered to the ATP Board in March 2022 and will summarize the best practices and options, including the pros, cons, and potential mitigating factors of such options. The report will not make a specific recommendation but instead lay out the information the ATP Board will need to inform their final decision regarding the leadership structure for ATP.

	Project Connect	Honolulu Light Rail	Seattle Light Rail	Silver Line Extension	Los Angeles Expo and Gold Lines	London Crossrail	Copenhagen Metro and Light Rail	1999-2003 Madrid Subway Expansion	Karlsruhe, Germany Tram Project
Average Construction Costs per Mile (2020 USD)	-	$600 million per mile (0% tunneled)	$355 million per mile (49% tunneled, on average)	$245 million per mile (2% tunneled, on average)	$134 million per mile (5% tunneled, on average)	$555 million per mile (100% tunneled)	$296 million per mile (59% tunneled, on average)	$162 million per mile (77% tunneled)	$702 million per mile (72% tunneled)
Primary Existing Operator	CapMetro	City of Honolulu Transportation Dept. (TheBus)	King County Metro (KCM) and Sound Transit	WMATA	LA Metro	Transport for London (TfL)	Copenhagen Metro and Light Rail Companies	Madrid Metro	VBK
Project Implementing Agency	ATP	HART	Sound Transit	MWAA	Expo and Gold Line Construction Authorities	Crossrail Ltd.	Copenhagen Metro and Light Rail Companies	MINTRA	KASIG
Project Implementing Agency Description	Local govt. corporation created by City of Austin and CapMetro	Semi-autonomous entity of City of Honolulu	Local govt corporation created by King, Pierce, and Snohomish Counties	Independent airports authority for Washington, D.C. region	Created by CA State Legislature	Independent subsidiary of TfL – created jointly by TfL and UK Department for Transport	Publicly owned corporations (national, local, and regional ownership)	Public corporation chartered by Madrid regional government	Independent subsidiary of KVVH (Karlsruhe Municipal Public Works Dept)
Funding Role	Project Connect will use a mixture of voter-approved ad valorem taxes Grantee and project sponsor to be determined.	HART issues bonds, repaid using dedicated local tax revenue and federal CIG grants (HART is grantee and project sponsor)	Sound Transit issues bonds repaid using dedicated local sales and vehicle tax revenue, as well as CIG grants (Sound Transit is grantee and project sponsor)	MWAA issued bonds against revenue from Dulles Toll Road (owned by MWAA). MWAA is CIG grantee and federal project sponsor.	LA Metro issued bonds against dedicated sales tax revenue and transferred funds to the construction authorities. Federal funds were not used in Expo and Gold Line projects	Crossrail Ltd. received direct government contributions, local taxes, fares, and contributions from developers. Greater London Authority (local government) issued bonds against local tax revenue to fund part of its share.	Copenhagen Metro company issued bonds against revenue from redevelopment of publicly owned land. Light rail company receiving direct national and local contributions.	MINTRA issued government-backed bonds, funded through grants from the regional government	80 percent of project funded by national and state grants. KASIG responsible for financing remaining 20 percent.
Shares executive director with operator?	ATP and CapMetro currently share common CEO.	Separate executive directors	Separate executive directors	Separate executive directors	Separate executive directors	Separate executive directors	Metro and Light Rail Companies currently share CEO (and staff)	Separate executive directors	KASIG and VBK share common CEO
Transit Operator Role in Board Governance	CapMetro has appointee on ATP Board	Executive director of TheBus sits on HART Board	King County Executive (who oversees KCM) serves on ST Bo ard.	No direct representation of WMATA in MWAA governance	LA Metro CEO served on board of Expo Line Construction Authority	TfL had appointees on former board. Crossrail Ltd. currently reports directly to TfL as part of operational handover.	Metro Company and Light Rail Company are also the operators	No designated representation of Madrid Metro in MINTRA governance	No dedicated VBK appointees on board, but Mayor of Karlsruhe chairs the boards of VBK and KASIG