MTI Working Paper

Research Project 2503

Collaborative Funding to Facilitate Airport Ground Access

CASE STUDY REPORT:
PORTLAND MAX AIRPORT EXTENSION

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May 2012

A publication of
Mineta Transportation Institute
Created by Congress in 1991

College of Business
San José State University
San José, CA 95192-0219

Library of Congress Catalog Card Number:
2012938608

To order this publication, please contact:

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ACKNOWLEDGMENTS

The case study documented in this report has been prepared as part of the Mineta Transportation Institute Research Project Collaborative Funding to Facilitate Airport Ground Access. The objectives of the research project include examining and documenting past experience with collaborative funding of airport ground access projects and the use of different funding sources to facilitate interconnectivity between transportation modes in order to improve airport ground access.

The authors would like to acknowledge and thank the sponsors of the research, the California Department of Transportation, Division of Aeronautics and the Mineta Transportation Institute (MTI).

The authors also thank MTI staff, including deputy executive director and research director Karen Philbrick, Ph.D.; director of communications and technology transfer Donna Maurillo; student research support assistant Joey Mercado; and webmaster Frances Cherman, who also provided editorial support.

Helpful suggestions on the presentation of the material in this case study report were received from several anonymous reviewers as part of the peer review process for all research published by MTI.

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ABSTRACT

This case study report documents the experience with collaborative funding of airport ground access involved in the construction of an extension of the Metropolitan Area Express (MAX) light rail system in Portland, Oregon, to Portland International Airport (PDX). The project is notable for the use of a public-private partnership that provided about a quarter of the cost of constructing the extension in return for development rights on land adjacent to the airport.

The MAX system is operated by TriMet, a municipal corporation providing bus, light rail and commuter rail services in the three-county metropolitan area. In 1997 Bechtel Enterprises approached regional officials with a proposal to construct a 5.5-mile extension of the MAX system from the Gateway Transit Center to Portland International Airport as a public-private partnership (PPP). Bechtel proposed to provide private sector funding for about a quarter of the project's cost in return for a sole-source contract to design and build the extension and development rights to a 120-acre site located near the airport on the planned alignment of the MAX airport extension. After a review of the proposal by a Public Review Committee appointed by the Port of Portland (operator of PDX), TriMet, and the City of Portland, and studies by TriMet, the Portland Development Commission, the Port of Portland, and Metro (the regional metropolitan planning organization), a detailed agreement was negotiated between the project partners, and construction began in 1999. The extension opened in September 2001.

The Airport Station is located adjacent to the terminal building on the arrival level about 200 feet from baggage claim. There are three intermediate stations between the Gateway Transit Center and the Airport Station, including Cascade Station, located at the site of the mixed-use development that formed part of the PPP. The Airport MAX Red Line extension cost $125 million, with funding provided by TriMet, the Port of Portland, the City of Portland, and Bechtel Enterprises. No federal funds were used for the project.

The Portland MAX Airport Extension represents an innovative approach to the use of a PPP to allow a major airport ground access project to be implemented many years earlier than it would have been otherwise. By providing Bechtel Enterprises with development rights to land adjacent to the airport in return for covering some of the costs of constructing the extension, the public costs involved in developing the airport link were reduced by about 23 percent. The MAX Airport Extension has significantly improved transit access to PDX and encouraged greater use of transit for airport trips, supporting regional policies to reduce private vehicle use. Furthermore, the operating costs of the extension are partly offset by the fare revenue from transit trips generated by the Cascade Station development.

PORTLAND MAX AIRPORT EXTENSION

INTRODUCTION

MAX (Metropolitan Area Express) is the light rail system serving the metropolitan area of Portland, Oregon. It is operated by TriMet, a municipal corporation providing bus, light rail and commuter rail services in the three-county metropolitan area.[1] The MAX system began service in 1986 with one 15-mile line between downtown Portland and the city of Gresham in the east of the metropolitan area. By September 2010, the MAX system comprised four lines covering 52 miles of route.[2]

In September 2001, TriMet opened the MAX Red Line serving Portland International Airport (PDX). This project was constructed through a public-private partnership (PPP) with Bechtel Enterprises, which allowed the project to be completed many years earlier than had been planned.[3] As part of the PPP agreement, Bechtel Enterprises contributed about a quarter of the project's funding and contracted to construct the 5.5-mile extension from the Gateway Transit Center in northeast Portland to the airport. In return, Bechtel Enterprises received development rights to a 120-acre site near the entrance to the airport that was owned by the Port of Portland, the operator of PDX, with approval to construct a mixed-use development.[4]

PDX had experienced considerable growth during the 1990's, with air passenger traffic at the airport increasing from six million passengers in 1990 to 14 million in 2000.[5] Air passenger traffic declined from 2000 to 2002, then grew to a peak of 14.7 million passengers in 2007, before declining again to 12.9 million in 2009.[6] However, air passenger traffic at PDX is forecast to increase to about 27 million by 2035.[7] In 2009 the Red Line Airport Station handled 1.1 million passengers boarding and alighting.[8]

The Airport Station is located adjacent to the terminal building on the arrival level about 200 feet from baggage claim. There are three intermediate stations between the Gateway Transit Center and the Airport Station, as shown on Figure 1: Parkrose/Summer Transit Center, Cascades, and Mt. Hood Avenue. From the Gateway Transit Center, Red Line trains share tracks with the Blue Line trains to downtown Portland and the City of Beaverton on the west side of the metropolitan area. Red Line trains run every 15 minutes during peak hours and every 30 minutes during early morning and evening hours.[9] The first train arrives at the airport around 5 am and the last train departs the airport at 11:59 pm.[10] Travel time from downtown Portland to the airport is approximately 38 minutes[11] and the adult fare as of January 2011 was $2.35.[12]

In April 2009 a detailed case study of the development and financing of the Airport Red Line extension was undertaken by PB Consult for the AASHTO (American Association of State Highway and Transportation Officials) Center for Excellence in Project Finance.[13] Many of the details in this case study report are drawn from that study.

Figure 1. Portland MAX Red Line Route and Airport Extension

Source: TriMet, *MAX Red Line -- Light Rail to the Airport,* 2009.

HISTORY OF THE PROJECT

Tri-Met, the Tri-County Metropolitan Transportation District of Oregon, was established in 1969 when the region's previous primary transit service provider, Rose City Transit Company, was faced with bankruptcy. Tri-Met (subsequently shortened to TriMet) assumed the assets of Rose City Transit and began providing all bus transit service in the region. In 1979, Metro, an elected regional government established the previous year with responsibility to plan for the region's future, adopted an urban growth boundary and the following year adopted a new Regional Transportation Plan that focused growth within the urban growth boundary around a proposed light rail system. In 1986, TriMet opened the first segment of what became known as the MAX light rail system between the suburb of Gresham to the east of the region and downtown Portland, and two years later opened the 18-mile westside extension from downtown Portland to the cities of Beaverton and Hillsboro.[14]

In 1997 Bechtel Enterprises (Bechtel) approached the Port of Portland and TriMet with a proposal to construct a 5.5-mile extension of the MAX system to PDX as a public-private partnership. This extension had been included in regional transportation plans since the early 1980's, but it was not expected that funding to construct the extension would be available until the 2010 time frame. Bechtel proposed to provide private sector funding for about a quarter of the project's cost in return for a sole-source contract to design and build the extension and development rights to a 120-acre site located near the airport on the planned alignment of the MAX airport extension.[15] This site, which came to be called Cascade Station, formed part of a larger 458-acre area adjacent to the airport owned by the Port of Portland and called the Portland International Center (PIC).[16] The PIC is located immediately to the south of NE Airport Way, the access highway to the airport, between the airport and Interstate 205 (I-205), as shown in Figure 2.

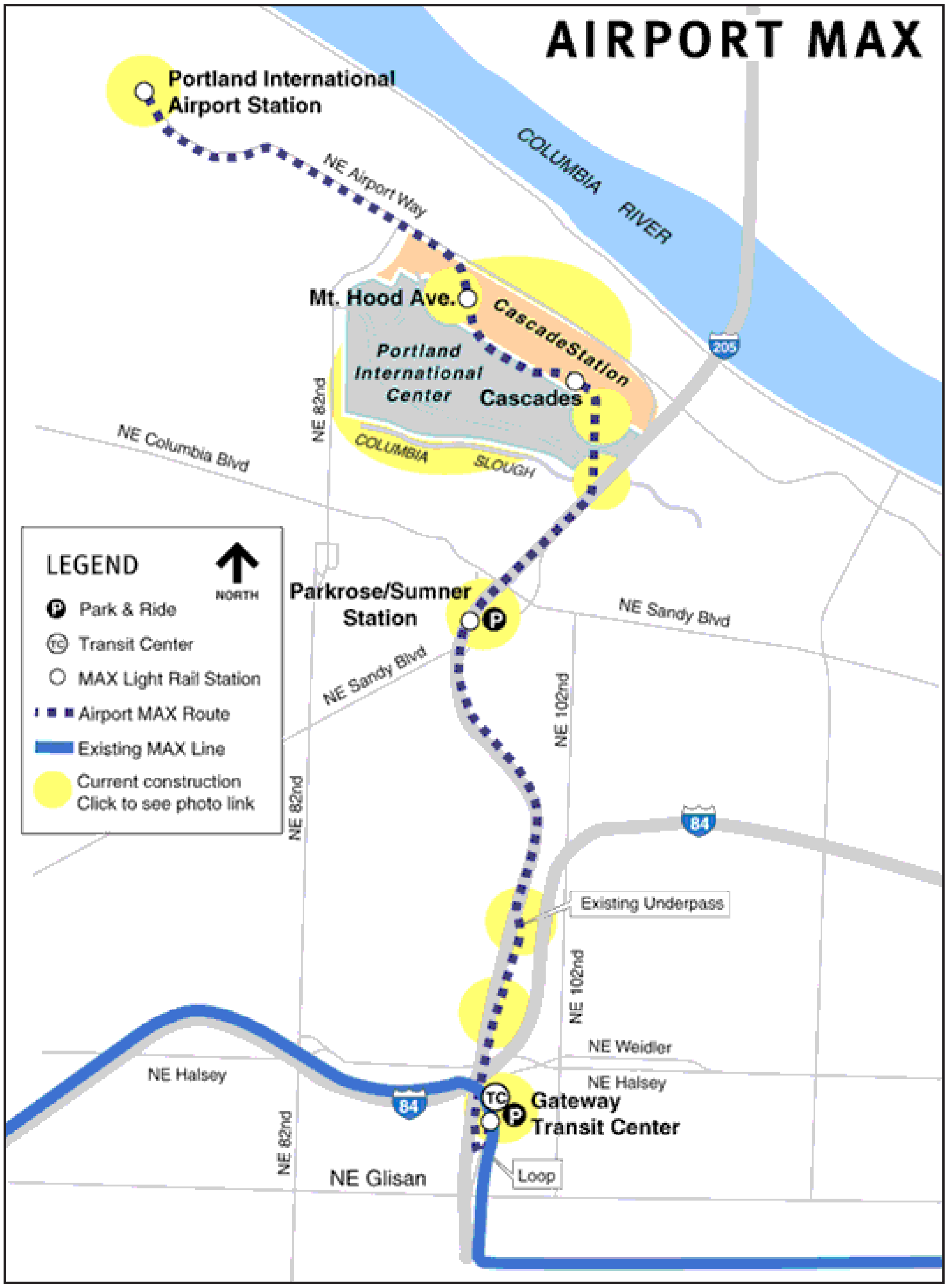

Figure 2. Airport MAX Route and Cascade Station Location

Source: Tri-Met, “Airport MAX,” January 2000.

The PIC had been planned for a mix of light industrial and commercial uses and lay within the Airport Way Urban Renewal Area (URA) established by the Portland Development Commission (PDC) of the City of Portland in May 1986. The URA covered 2,726 acres along the shore of the Columbia River immediately to the east of the airport, as shown in Figure 3, and is the City’s second largest URA. The Airport Way Urban Renewal Plan was adopted by the PDC and City Council in May 1986 and was scheduled to expire on May 15, 2011. The Airport Way URA is unique among the urban renewal areas in the city in that it does not have a significant housing element. Instead, its primary goal is to create a major employment center on the east side of the city, taking advantage of its proximity to major transportation infrastructure, including the airport. The PDC and City Council adopted the Airport Way Development Plan in 1989.[17]

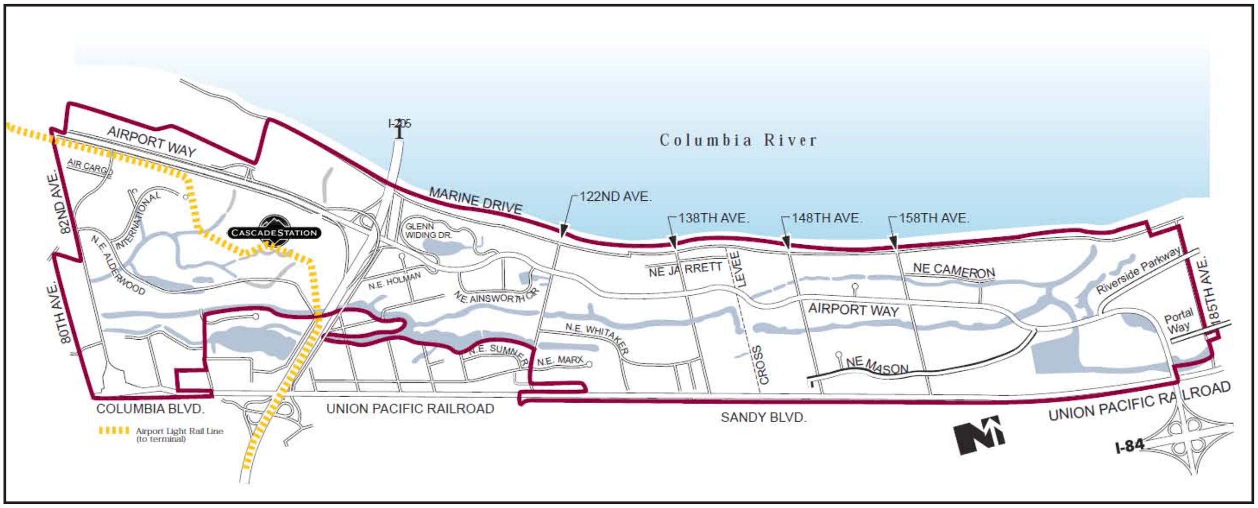

Figure 3. Airport Way Urban Renewal Area

Source: PDC, "Airport Way Urban Renewal Map," May 2008.

Figure 3 shows the route of the MAX airport extension (in yellow) and the location of the Cascade Station development at the western end of the URA.

Although the Airport Way urban renewal district can no longer issue long-term debt after the expiry of the Urban Renewal Plan in May 2011, the district does not officially close until all bonds have been paid off. In fact, the district had reached its maximum authorized indebtedness of $73 million prior to the expiry date. From that point on, PDC project activities within the URA must be funded from the sale or lease of property in the URA acquired by PDC over the years.

As shown in Figure 2, the planned route of the MAX airport extension comprised three segments. The first segment, termed the Gateway Segment, extends 2.9 miles from the Gateway Transit Center to the southeast boundary of the PIC and would be located in the median of I-205 using right-of-way that had been previously reserved for a transitway.[18] This segment includes the Parkrose/Sumner Station located in the freeway median and connected to a park-and-ride lot by a pedestrian bridge. The PIC Segment is 1.4 miles long and crosses the PIC site to NE Airport Way at NE 82nd Avenue with two stations, Cascade and Mt. Hood Avenue, serving the Cascade Station development. The third segment, termed the Terminal Segment, extends 1.2 miles adjacent to NE Airport Way from NE 82nd Avenue to the airport passenger terminal, terminating next to the baggage claim area.

Negotiation of the Public-Private Partnership Agreement

Following the approach from Bechtel, discussions were undertaken between the Port of Portland, TriMet, and the City of Portland. In December 1997, the City Council authorized the PDC to enter into an intergovernmental agreement with the Port and TriMet to undertake a preliminary engineering study for the light rail extension, referred to as Airport MAX, in conjunction with Bechtel.[19] The preliminary engineering study was expected to cost over $3 million. The City, Port and TriMet would each contribute $500,000, with the balance covered by Bechtel. The City's contribution would be paid by the PDC from Airport Way Urban Renewal Area funds. The total cost of the Airport MAX project was estimated to range from $130 to $170 million.[20] It was recognized that a number of additional steps would need to be undertaken before a final decision on whether to proceed with the proposed arrangement could be taken, including the formation of a Public Review Committee, public review of the project, environmental permitting, identification of public funding sources, and determination of project eligibility for planned funding and obtaining necessary approvals.[21]

The Public Review Committee (PRC) was formed in early 1998 and comprised nine members, a commissioner or board member of the Port, City, PDC and TriMet, as well as the Washington State Transportation Commission, and four prominent citizens in the regional business and legal community.[22] The PRC was tasked to answer two questions:

- What are the key issues of interest to the public, and have these issues been addressed adequately by project staff?

- Is it in the public's best interest for this project to proceed as planned?

The committee review lasted six months, during which six public meeting were held at which project staff made presentations on the major issues involved in siting, building, and operating the Airport MAX line. Questions raised by the PRC or members of the public at these meetings were further researched by staff and reported at the subsequent meeting. The PRC also heard testimony at the meetings both in support of and opposed to the extension.[23]

The PRC Final Report identified eight key issues of interest to the public and the committee, some of which had been resolved to the satisfaction of the committee, while others required further attention during final design of the project.[24] Three issues that the PRC concluded had been satisfactorily resolved were:

- The regional finance plan for the project;

- Projected ridership;

- Whether to include the Parkrose/Sumner station in the project.

The PRC concluded that five issues required further attention:

- The public-private partnership with Bechtel;

- The Airport MAX operations plan;

- Planning for the Portland International Center;

- Environmental assessment of the project;
- Customer amenities.

Regarding the public-private partnership with Bechtel, the PRC final report stated that the committee was not charged with independently evaluating the PIC lease agreement, and that at the time the PRC concluded its meetings the lease negotiations were still underway.[25] The committee stated that any judgment on the terms of the lease would be made by the public agencies acting on the project. Since the PRC had been tasked with recommending whether the planned approach to the project was in the public's best interest, and the answer to that question obviously hinged on the terms of the agreement between the public agencies and Bechtel, it would appear that the PRC failed to address one of the most important aspects of the proposed project.

None the less, the PRC concluded that the project represented the public's best interest and recommended that it receive the approvals of its sponsoring agencies.[26] The committee based this conclusion on its assessment that the immediacy of the proposal (by which the committee appears to be referring to the Airport MAX project being completed much earlier than it would otherwise be) and the value of the private-sector contributions made the proposed partnership with Bechtel too valuable an opportunity to be missed. The final report does not explain how the committee came to this conclusion, since by its own admission it had not undertaken an independent evaluation of the terms of the PIC lease agreement.

Meanwhile Bechtel Enterprises had entered into a joint venture with Trammell Crow Company, a real estate development firm, to form Cascade Station Development Company (CSDC) to pursue the Airport MAX project and the associated development at the PIC.

On October 7, 1998, the Portland City Council authorized the PDC to complete negotiations with CSDC, TriMet, and the Port of Portland and execute a Framework and Rail Financing Agreement to construct the Airport MAX project.[27] A supporting memorandum from the PDC presented to the Council stated that a preliminary return on investment analysis had been completed that had reviewed the PDC's contribution to the project and the expected net benefit to the City of Portland.[28] This analysis had concluded that revenue from induced property tax, hotel/motel tax, utility franchise fees, and business license fees were projected to exceed the City's direct and indirect costs of providing a share of the infrastructure and standard municipal services.

The PDC memorandum also stated that the preliminary engineering study that had been undertaken under an intergovernmental agreement between the PDC, Port of Portland, and TriMet had determined that the project could be built within the existing publicly-owned right-of-way for the capital cost originally discussed by the parties and within the timeframe proposed.[29] The memorandum also noted that an environmental assessment had been completed but had not yet been made public. The preliminary report was expected to be released shortly, followed by a 30-day notice period and a public meeting. It was anticipated that this would result in a Finding of No Significant Impact (FONSI).[30] The memorandum stated that final engineering and construction would be dependent on the project receiving a FONSI, but neither the wording of the Council Ordinance authorizing execution of the Framework and Rail Financing Agreement nor the draft Agreement included in the appendices to the Ordinance contained this restriction.

The PDC memorandum indicated that a number of other agreements would need to be executed in addition to the Framework and Rail Financing Agreement in order to implement the project.[31] These included development agreements between the PDC and CSDC, and between the Port of Portland and PDC, a lease between the Port and CSDC, and light rail operating agreement between the Port and TriMet. It would also be necessary for the City of Portland to approve a Plan District for the PIC.

While the preliminary return on investment analysis was reported as showing that the projected revenues from the Cascade Station development would exceed the City's direct and indirect costs of the project, this did not appear to consider the financial contributions of TriMet and the Port of Portland. Furthermore, the analysis did not appear to compare the net public benefits of the proposed public-private partnership to the net benefits of constructing the Airport MAX extension and developing the Cascade Station site using more conventional approaches, or compare the net public benefits to the potential return on investment of CSDC.

Following authorization from the City Council, the PDC entered into the Framework and Rail Finance Agreement with the Port of Portland, TriMet, and CSDC in October 1998 and the three agencies spent the next few months developing and executing the additional agreements needed to implement the financial arrangements for the project.

The Port of Portland planned to finance its capital contributions to the project from Passenger Facility Charge (PFC) revenue at PDX. This required approval from the Federal Aviation Administration (FAA), which is required to determine whether planned use of PFC revenue is eligible under the PFC program regulations. The FAA approval was issued on May 27, 1999.[32]

When it became clear that FAA approval for the use of PFC revenue for the project would not be confirmed until late May, the parties entered into a bridge agreement in March 1999 to allow early construction work on the project to commence.[33] Major construction on the Airport MAX began in June 1999.[34] The Airport Extension opened on September 10, 2001, one day before the terrorist attacks of September 11 shut down the air transportation system. The planned opening celebrations were cancelled and Airport MAX played an important role in evacuating thousands of passengers stranded at the airport.[35]

Development of Cascade Station

In February 1999, the Portland City Council adopted the Cascade Station/Portland International Center Plan District, which established the allowable property development rights and design standards.[36] Within the 120-acre Cascade Station subarea, this allowed for:

- 1,325,000 square feet (sf) of office space;

- 400,000 sf of retail, with no retail use occupying more than 60,000 sf per floor;
- 1,200 hotel rooms;
- One gas station, with up to twelve pumps;
- A 24-screen movie theatre.

On June 11, 1999 the PDC executed a Development Agreement between PDC and CSDC that specified design standards, maximum development rights, and plan approval processes, and discussed PDC's goals for employment in the district.

However, following the execution of the agreement, development stalled due to the economic recession that began in 2001 and the size restriction on retail uses, which effectively precluded attracting any large anchor stores. This in turn discouraged smaller stores from locating at the development.[37] In 2004, a market study prepared by ERA at the request of the PDC concluded that increasing the amount of retail development rights at Cascade Station and allowing a limited number of larger stores would not have an adverse effect on other regional retail centers.[38]

On February 17, 2005, the Portland City Council amended the Cascade Station/Portland International Center Plan District to allow up to three larger-format stores, increase the allowable amount of retail use, and adjust other allowable uses.[39] It was anticipated that these changes would help attract anchor stores and revive development interest in Cascade Station, with the anchor stores providing the customer draw to attract smaller retail stores and related businesses. The amended development rights allowed for:

- 1,115,000 sf of office space;
- 807,500 sf of retail, including up to three retailers in excess of 90,000 sf;
- 250 hotel rooms;
- One gas station with up to twelve pumps.

The revised site plan is shown in Figure 4. The two anchor stores are shown in yellow, with the retail center shown in orange. The first phase of office and hotel development is shown in grey, with future office and hotel development shown in blue.

In October 2005, IKEA, an international home furnishings retailer, announced plans to locate their Portland store at Cascade Station. Construction of the 280,000 sf store commenced in August 2006 and the store opened on July 25, 2007.[40,41] This led to a surge of activity by other retailers and restaurants, together with office and hotel development.

In July 2006, the financial relationship between the PDC and CSDC was restructured. The PDC took control of about 36 acres of the site, the parcels shown in blue in Figure 4, and Bechtel sold its interest in CSDC to Trammell Crow Company.[42,43] The following month, the PDC issued a Request for Proposals from commercial real estate brokerage firms to market the parcels and in December 2006 the PDC Board authorized a Professional Services Contract with Grubb & Ellis Company to perform this function.[44]

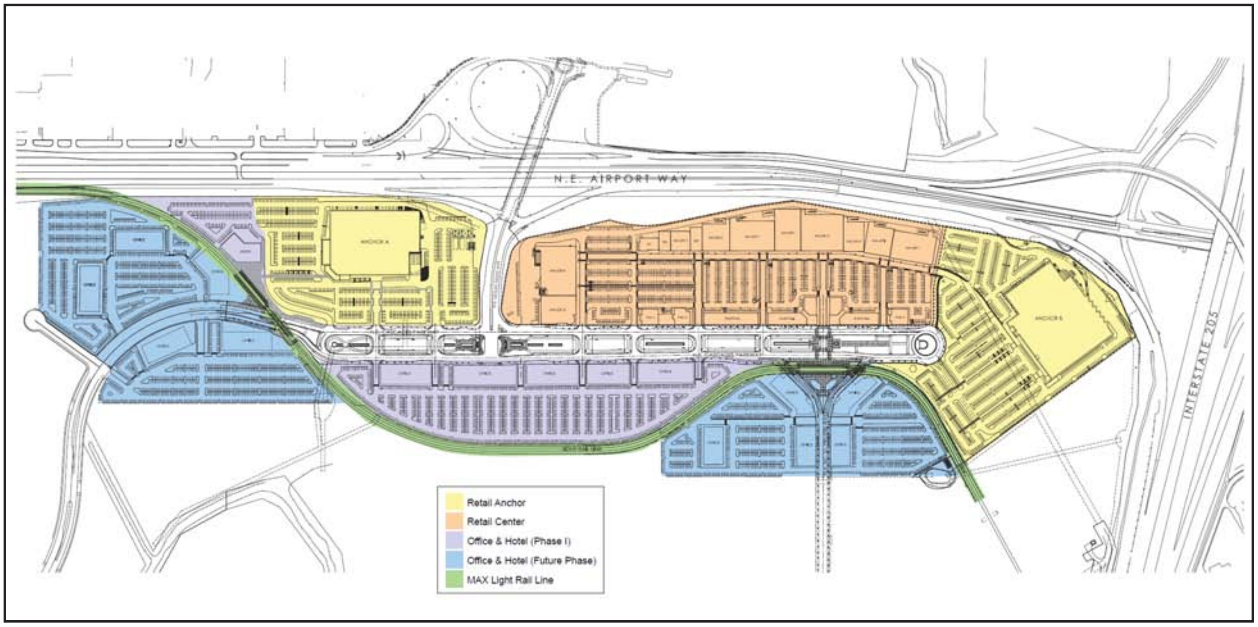

Figure 4. Cascade Station Site Plan

Source: Trammell Crow Company, “Cascade Station” (trimmed), September 2006, marketing.trammell crow.com/portland/cascadestation/siteplan.pdf (accessed January 12, 2011).

By 2011, a second anchor store, Target, was open, almost all the space in the Retail Center was leased, some 43 stores, restaurants, and services, and three hotels were open.[45,46]

PROJECT COSTS

The total development costs for the Red Line Airport extension were reported by PB Consult as $128.8 million.[47] Preliminary engineering costs were $3 million and construction costs were $125.8 million. However, earlier documents from the project partners reported that construction costs were only $125 million.[48] It is unclear if the costs increased slightly toward the end of the project or PB Consult misreported the share of the costs incurred by the City of Portland.

FUNDING SOURCES

The Red Line Airport extension was funded by a combination of local funds and the contribution from Bechtel Enterprises, as shown in Table 1. No direct federal funds were used in the project, which simplified approvals and allowed more rapid decision-making.

Table 1. Funding Sources for Portland MAX Red Line Extension

	Amount $(m)			
Funding Source	**Preliminary Engineering**	**Construction**	**Total**	**Percent**
City of Portland	0.5	23.8	24.3	18.9%
TriMet	0.5	45.5	46.0	35.7%
Port of Portland	0.5	28.3	28.8	22.4%
Bechtel	1.5	28.2	29.7	23.1%
Total	**3.0**	**125.8**	**128.8**	**100.0%**

Source: PB Consult, *Airport Max: A Case Study,* April 2009.

The City of Portland agreed to contribute $23.8 million toward the construction cost of the 2.9-mile segment from the Gateway Transit Center along the I-205 right-of-way. Since the segment is within the Airport Way URA, the City was able to use tax increment financing to finance its contribution. It issued bonds to generate the funds, with future tax revenues from increases in the land values of parcels within the URA to be used to pay the interest on the bonds and eventually retire the debt.

TriMet provided $45.5 million to cover the balance of the construction cost of the 2.9-mile segment from the Gateway Transit Center along the I-205 median. These funds were obtained from TriMet general funds.

The Port of Portland contributed $28.8 million from airport PFC revenue.

In addition to the costs of constructing the Airport MAX extension, the PDC financed infrastructure development at Cascade Station.

The financial relationship between the PDC, Tri-Met, and CSDC was quite complex. The contribution to the construction cost of the Airport MAX extension from Bechtel was initially funded by Tri-Met using proceeds from tax-exempt bonds issued to finance the Gateway segment of the extension. These funds were then repaid by Bechtel through a $28.2 million assignment fee paid to the PDC for the development rights at Cascade Station, which PDC then assigned to Tri-Met to pay off the bonds.[49]

SUMMARY AND CONCLUSIONS

The Portland MAX Red Line Airport Extension comprises a 5.5-mile extension of the regional light rail system from the Gateway Transit Center to Portland International Airport. The first half of the route is located in the median of I-205. The route then crosses the Portland International Center, a mixed-use development located between I-205 and the airport, and continues beside the main airport access road to the airport passenger terminal. The Airport station is located on the arrivals level of the terminal adjacent to the baggage claim facilities. The extension includes three other stations between the Gateway Transit Center and PDX, two of which serve a 120-acre development within the PIC referred to as Cascade Station. The Portland MAX Airport Extension was developed as a public-private partnership between a joint venture of Bechtel Enterprises and Trammell Crow Company, the City of Portland, acting through the Portland Development Commission, TriMet, and the Port of Portland.

The Airport MAX project represents an innovative approach to the use of a public-private partnership to allow a major airport ground access project to be implemented many years earlier than it would have been otherwise. By providing Bechtel Enterprises with development rights to land adjacent to the airport in return for covering some of the costs of constructing the light rail extension, the public costs involved in developing the airport link were reduced by about 23 percent. There is no doubt that the MAX Airport Extension has significantly improved transit access to PDX and encouraged greater use of transit for airport trips, which supports regional policies to reduce private vehicle use. Furthermore, by configuring the Cascade Station development around two stations on the MAX Airport Extension, the operating costs of the extension are partly offset by the fare revenue from transit trips generated by the development.

Whether the Cascade Station development has proved a good deal for Bechtel Enterprises is less clear. One aspect of PPP developments is that the financial transactions of the private sector entity following completion of the project are often not public information, as in this case. Another question the answer to which is unknown is how much a private developer might have been willing to pay for the development rights to the area of Cascade Station if this had been available as separate transaction unrelated to the construction of the airport extension. It is possible that development fees under such an arrangement might have been greater than the costs of constructing the airport extension that were met by Bechtel; Enterprises, particularly given the possibility of federal grants to support the construction of the line. Presumably, at least at the time that Bechtel Enterprises entered into the PPP, the firm believed that it was more advantageous to undertake the Cascade Station development in conjunction with the extension of the MAX system to the airport than to pursue the development as a stand-alone project or it would not have entered into the PPP.

Part of its justification for pursuing the project as a PPP could have been to avoid a competitive bidding process for the development rights to the area of Cascade Station that might have increased the development fees that would have had to be paid or the costs of other concessions that would have had to be met, as well as the risk of not being awarded the project. Similarly, by avoiding a competitive bidding process for the construction of the extension, Bechtel may have felt that it would make a greater profit from the construction work than if it had had to bid for the work competitively.

A larger question, which is rarely addressed during consideration of specific proposals for private sector funding of public infrastructure, is whether the overall costs to society of using private funding sources to develop public infrastructure are reduced or increased compared to funding these projects entirely from public sources. While private sector funding may be viewed as “free money” by the agencies sponsoring a particular project, which do not have to meet these costs out of constrained budgets, these funding contributions are most certainly not free from the perspective of society as a whole, but have to repaid one way or another.

These questions point out the difficulty of determining whether a particular PPP is really in the long-term public interest or simply a way to allow a private sector entity to make money off the provision of needed public infrastructure. However, with growing public interest in making greater use of private sector funding for transportation infrastructure development, these questions become increasingly important.

The MAX Airport Extension provides an excellent example of both the opportunities that may exist to take advantage of private sector funding for airport ground access project, as well as the difficulty of knowing whether this is really such a good idea from the perspective if the larger public interest. While this case study has not attempted to address this question, the project provides a good basis for future research to address this issue.

ABBREVIATIONS AND ACRONYMS

Bechtel	Bechtel Enterprises, Inc.
CSDC	Cascade Station Development Company
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
MAX	Metropolitan Area Express (Portland light rail transit system)
MTI	Mineta Transportation Institute
PDC	Portland Development Commission
PDX	Portland International Airport (airport code)
PFC	Passenger Facility Charge
PIC	Portland International Center
PPP	Public-private partnership
PRC	Public Review Committee
sf	Square feet
TriMet	Tri-County Metropolitan Transportation District of Oregon
URA	Urban renewal area

ENDNOTES

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PEER REVIEW

San José State University, of the California State University system, and the MTI Board of Trustees have agreed upon a peer review process required for all research published by MTI. The purpose of the review process is to ensure that the results presented are based upon a professionally acceptable research protocol.

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