Central City 2035 N/NE Quadrant Plan
Plan Critique

USP 540 History & Theory of Planning

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Introduction

Plan creation, with its myriad interests, broad reach, and profound impacts, is difficult to do, and incredibly difficult to do well. Planners must identify challenges for today and anticipate those of tomorrow; they must understand the sources of these challenges and determine potential strategies for mitigation. Often, there are obstacles that further complicate the process. Considering Portland's 2012 North/Northeast Quadrant Plan, it is clear that interagency politics, funding availability, and existing momentum all made impacts on the outcome. This critique intends to assess this outcome, by examining both the process of developing the plan and the foundation of the implementation strategy, freeway improvements.

Critique of the Planning Process

Lyles and Stevens suggest a combination of two metrics to assess the strengths of a planning process. The first is to perform a content analysis to ascertain whether the plan meets criteria that were established by the planning team at the beginning of the process. The second metric assesses the plan based on its external quality, that is, how well the strategies and scope of the plan cover the values of all stakeholders (Lyles & Stevens, 2014). These metrics, along with evaluating the complexity of joint action, expose the strengths and weaknesses of the N/NE Quadrant planning process. Joint action across multiple governmental agencies is complex and sometimes divisive in nature. The N/NE planning process was successful at including local agencies, especially when placed in the context of state-dominated transportation planning history. However, State interests ultimately overshadowed local interests, resulting in a planning process with weaknesses that outweigh its strengths.

Strengths - Interagency Collaboration and Community Inclusion

Interagency communication between State and City transportation departments built a stable foundation for the planning process. Historically, transportation planning in the United States has frequently involved State departments dominating agendas, and at times, overriding valid local concerns surrounding equity

and the environment (Sciara, 2017). In the N/NE Quadrant, past plans have focused on expanding freeway capacity without regard to local systems. The N/NE Quadrant planning process, with constant communication between the Oregon Department of Transportation (ODOT) and Portland Bureau of Transportation (PBOT), was a huge step in shifting towards state and local collaboration. Although dialogue was limited to a few select staff and management, the agencies maintained transparency and respect in their communication throughout the project.

The involvement of multiple government agencies brought a broad range of community interests into the planning process. The Stakeholder Advisory Committee (SAC) was comprised of 30 members representing a wide variety of private and public interests at state, regional, city, and neighborhood levels. Importantly, the SAC included representatives of communities of color. These communities had been disproportionately harmed by past planning processes, such as the construction of I-5 which displaced neighborhoods in lower Albina. The agencies' cooperation led to government accountability; PBOT's systematic approach to transportation and land use planning encouraged ODOT to involve communities that had a negative perception towards freeway planning. The communities' input led the Portland Bureau of Planning and Sustainability to compile a historic building inventory, strengthening the Plan by ensuring no historic building would be touched.

Critique - Framing the Problem

A major weakness of the N/NE Quadrant planning process is the project team's narrow definition of the problem. Despite the diverse representatives on the SAC, the technical improvements to achieve the goal reflect the interests of only a few members, ignoring concerns of neighborhood and active transportation organizations. From the outset of the planning process, participants were tasked with working towards the common objectives outlined in the Project Charter Sponsoring Document. This agreement, written by the directors of PBOT, BPS, and ODOT, contains a section that defines the joint ODOT and City of Portland purposes. Of the six shared purposes, five specifically call out the "freeway" or "I-5" by name and the

sixth refers more generally to the interface of transportation and land use. The freeway is certainly a large component of the transportation system in the Quadrant. However, by framing the objectives of the plan this way, the team limited itself to freeway-centric strategies. The framework precluded consideration of other, higher level alternatives to accomplish the goals.

The focus on objectives that are centered on the freeway indicate a more pragmatic approach to the Quadrant planning process. The process was initiated when the PBOT reached out to ODOT, likely because the planning team realized that the best opportunity for funding would be through the cooperation of the State with a major transportation initiative.

Planning Process - Quality Evaluation

The planning team's implementation-oriented approach resulted in a plan well-suited for funding opportunities, a measure of success for plans that are evaluated through content-focused analysis. Not only did the agencies engage each other, they also included community input so as to avoid political pushback, thus removing obstacles to funding opportunities. However, this approach is not without problems. The plan, having a narrow focus of planning objections, a byproduct of targeting State funding sources, is of poor external quality. The planning process was unable to provide relevant strategies and thorough consideration of the values of *all* stakeholders. Perhaps due to the complexity of funding this joint action, the plan fails to address options that deviate from the freeway-centric agenda of the State agency, therefore neglecting the values of stakeholders that worked to promote strategies for other modes. The planning team, having valued the quality of implementable content over broader, systematic strategies, considered that actualizing some tangible improvements in the Quadrant was more important than creating a plan with a truly inclusive planning process and outcome.

Critique of Freeway Improvements

Many of the transportation elements of the N/NE Quadrant Plan refer to or depend on the implementation of the I-5 Facility Plan. This Plan, included in Appendix C of the Quadrant Plan, adds an auxiliary lane to each direction of I-5, modifies the interchanges in the Plan area, and replaces the bridges over the freeway with broader "lids." Because of the significant scope, in terms of both implementation cost and attention in the document, the Facility Plan deserves a close inspection. It outlines the necessity of freeway improvement based on the current condition of congestion and collisions, and the assumption of a net benefit from freeway mobility. This critique looks at this recommended alternative as it relates to the goal of *a full multimodal transportation system that addresses present and future transportation access and needs, both locally and on the freeway system.*

Auxiliary Lanes — Strengths

Freeway Congestion & Safety

The section of I-5 between I-84 and I-405 is one of the busiest in the state, including a high volume of local and regional freight. A 2005-2009 study found that it also had the highest crash rate. Adding auxiliary lanes to I-5 is intended to alleviate congestion by reducing weaving between interchanges. Technical reports have shown auxiliary lanes to reduce congestion soon after implementation (Qi, Chen, & Cheu, et al. 2014). Research also indicates auxiliary lanes reduce crashes in areas where interchanges are particularly close together, as they are in the Plan area (Le & Porter, 2012).

Multi-Modal Benefits

Alleviating I-5's current peak congestion may help meet the present needs of the local street system in addition to the freeway system. Reducing freeway congestion will shorten commute times for passenger vehicles and C-Tran transit buses. It will reduce wait times for freight. Redesigned interchanges prioritize freight movement, improving local access. Better flowing freeway traffic may draw motor vehicles away

from other routes, reducing surface street congestion. Fewer motor vehicles on the surface streets improves Trimet mobility and creates a safer, more comfortable environment for pedestrians and cyclists.

Auxiliary Lanes — Weaknesses

Financial Burden

The most obvious critique with respect to a facility plan of this magnitude is the capital costs required to fund the implementation. As discussed in the "Interagency Collaboration and Community Inclusion" section of this critique, funding of highway projects such as this is historically directed from the Federal Government to the State for oversight and implementation. Estimates place this investment at roughly $500 million. A public project of this scale calls into question government accountability and the opportunity cost of the expense: are other, less costly alternatives available that may be effective in meeting the Plan's transportation goals?

Latent and Induced Demand

The logic behind an I-5 investment for congestion relief is short-sighted. As mentioned above, the benefits of auxiliary lanes for relieving current congestion are well-founded. However, there are two widely accepted phenomena that will likely make this relief short-lived. The first is the latent demand that exists for traveling in this direction. Currently, certain drivers are avoiding this stretch of freeway because of the slow moving congestion. Faster flowing traffic will attract these travelers to the freeway, which is described above as a benefit when it reduces surface street traffic. However, this behavior will quickly increase freeway congestion after the improvements are made (O'Sullivan, 2012). The second phenomenon is induced demand. If traffic on I-5 continues flowing well — even after absorbing the latent demand — the faster moving freeway reduces time costs, encouraging longer trips. Over time, these trips will bring the freeway back to capacity, with congestion concentrating either in the N/NE Quadrant or at a nearby bottleneck like the Columbia River bridge or the interchanges in SE. This induced demand will

also increase traffic on surface streets as more commuters use the highway to drive to and through the Plan area (Cervero, 2003).

Safety

The safety benefit of the auxiliary lanes is achieved by reducing the number of crashes on I-5. These crashes stem from maneuvering in congested conditions and tend to be slow-moving fender benders with minimal injuries. Increasing capacity could lead to higher speeds and more severe injuries. Also, there have been far more injurious crashes on the surrounding surface streets. For example, East Broadway in the Plan area had 124 reported collisions with serious injuries or death from 2006 through 2016, while I-5 had 30 (PBOT, 2017). The long term effects of induced demand encourage even more drivers into the area, likely making the surface streets even more dangerous.

Broadway/Weidler Lids — Strengths

Street Connectivity

A major aspect of the I-5 Facility Plan is the freeway lids and their impact on surface street connectivity, particularly active transportation modes. The auxiliary lanes have forced a realignment of the surface over-crossings. Several need to be removed, moved, or remodeled to accommodate the new lanes, and this presented planners with an opportunity to look at the multi-modal aspects of this transportation nexus as a whole. Building active transportation infrastructure has been shown to increase its use (Dill, Carr, 2003). In line with the specific goal of this critique, planners sought to create improvements that supported all modes of transportation, both for safety and connectivity. Broadway and Weidler are wide, busy streets, and have been identified as barriers to overall connectivity. The Williams I-5 southbound on-ramp will have significantly more storage capacity than currently on Winning Way, limiting highway entrance traffic spillover onto neighborhood streets. The new barrier-separated section of Williams between Broadway and Weidler provides for a simpler, quicker transition northward onto the Williams corridor. This reduces conflict with active users and other vehicle traffic.

Active Modes

One of the primary goals of the lid design is to focus on enhancing active transportation modes. Both Broadway and Williams corridors have a lot of bicycle throughput, but there are difficult connections throughout the plan area. Planners sought to streamline some of these inefficiencies and to add more useful connection which are important to entice the "interested, but concerned" riders that want to ride but are wary of busy streets (Geller, 2009). The barrier-separated section of Williams between Broadway and Weidler is a significant addition, as it provides a dedicated, protected space for bicycle riders and pedestrians. Vehicle use through this location is simplified and restricted in ways that are easier for other users to predict. The automobile-free section of Williams south of Weidler allows for safer transit and active mode connections to the Rose Quarter.

Broadway/Weidler Lids — Weaknesses

Freeway Dependence

One of the major weaknesses of the lid improvements is that they are contingent upon the auxiliary lanes. They are physically unable to be built without impacting the freeway below and the chances of them being funded without a freeway investment is exceedingly small. There are also powerful voices within the Quadrant's neighborhood associations, and elsewhere in the community, that oppose highway improvements of any kind. The Eliot/Lower Albina community has been negatively impacted by highway projects in the past, and there are those who obstinately oppose any changes (Warwick, 2010). They may hinder implementation with persistent protests throughout the process.

Effectiveness

The lid improvements are important for improving the safety of existing riders, but the bicycle and pedestrian infrastructure on the lids is limited and will likely do little to entice people out of their cars. This plan does not go far enough. Broadway and Weidler are vital to Portland's bicycle and pedestrian

networks, connecting people to the Broadway Bridge, the Lloyd District, and points east. But these are busy roads that feel uncomfortable and unsafe. In fact, PBOT has identified this as a High Crash Corridor. Many more protections are needed if this plan is going to attract new "interested-but-wary" riders.

Conclusion

This investment in I-5 does not contribute significantly to modes beyond motor vehicles. Long term, the auxiliary lanes are likely to increase surface street congestion, hampering movement of transit and decreasing safety for people on foot and on bike. Increased driving will intensify pollution, a significant burden for active users and a barrier for potential active users. The Plan anticipates that spillover benefits of a motor vehicle-centric freeway investment will improve modes beyond personal vehicles and freight. As a whole, the lids do address some surface connectivity issues and a few active transportation issues, but these elements do not improve the area significantly. Directly addressing a true multi-modal system would be more effective in achieving the stated goal of the plan, without implicitly encouraging residents to drive more.

Annotated Bibliography

Bain L., et al. Living Streets : Strategies for Crafting Public Space. Chapter 7: Case Studies. John Wiley & Sons, Incorporated. 2012; ProQuest Ebook Central, https://ebookcentral-proquest-com.proxy.lib.pdx.edu/lib/psu/detail.action?docID=817501. Accessed December 4, 2017.

This chapter focuses on case studies of locations that have been particularly creative with street uses. Although the instigators vary, each situation evolved out of an opportunity to address multiple community concerns with a wholescale re-envisioning of the streetscape. In each case, broad support was nurtured from a multifaceted cross section of the community, and they have received consistent praise since completion.

Bucklew K, Ogonowski P. On a Roll with Tolling. Planning Magazine. 2015. https://www.planning.org/planning/2015/may/onarollwithtolling.htm. Accessed December 4, 2017.

Freight has historically been averse to toll roads because of the added expense. Recently attitudes have shifted as toll roads offer an option for a more reliable, faster, and safer route. Other techniques to improve freight movement, like truck-only and HOV lanes, are also considered.

Cervero R. Road Expansion, Urban growth, and Induced Travel: A path analysis. APA Journal. Chicago. 2003;69(2):145-163. doi:10.1080/01944360308976303.

Though the concept of induced demand has existed for some time, there have been few attempts to model the effect and quantify the impacts. This article attempts this by studying the near- and long-term effects of 24 freeway projects across California on traffic and land development. It concluded by confirming the effects from induced demand exist, though there is not enough information yet to make a robust model.

Congestion Pricing: A Primer. Federal Highway Administration, Office of Transportation Management, HOTM. United States Department of Transportation. Washington, D.C. 2006. Publication Number: FHWA-HOP-07-074.

The Federal Highway Administration released this report outlining the function and benefits of congestion pricing. The article provides national statistics on the impacts of congestion and results of pricing. Examples from the United States and cities abroad provide lessons learned and foundational models for cities considering the price-based tool. The range of examples illustrates the difference between city models.

Dill J, Carr T. Bicycle Commuting and Facilities in Major U.S. Cities: If You Build Them, Commuters Will Use Them. Transportation Research Record: Journal of the Transportation Research Board. 2003;1828. doi:10.3141/1828-14.

This article seeks to build on previous research into the impacts successive bicycle infrastructure projects have on increasing ridership. This article affirms the correlation between these factors, although it does note that a causal relationship has not been established. It may be that new paths are being built because of increased ridership.

Downs A. Still Stuck in Traffic : Coping with Peak-Hour Traffic Congestion, Appendix E. Brookings Institution Press. 2003; ProQuest Ebook Central, http://ebookcentral.proquest.com/lib/psu/detail.action?docID=273540. Accessed December 4, 2017.

This chapter discusses the virtues of increasing residential density near existing transit options. The chapter talks about past research showing a correlation between transit use and proximity to transit stations. The author developed a model to evaluate the relationship between density increases and automobile use decreases. The chapter concludes that building density around transit will work, but only in the central city, for the most part. Typically suburban areas resist high densities and paired with general choice patterns, it is hard to justify transit expansions solely based on density increases.

Eliasson J. The Stockholm congestion charges: an overview. Centre for Transport Studies, Stockholm. 2014. http://www.transportportal.se/swopec/cts2014-7.pdf.

The report from Stockholm's Centre for Transport Studies provides background on the city's congestion charge, examines the shift of public perception and illustrates lessons learned. Critical statistics are included in the report, such as the percent of the population that supported the charge. The in-depth description of events leading up to implementation as well as obstacles after implementation provide a model for cities considering the same policy tool.

Geller R. Four Types of Cyclists. Portland Bureau of Transportation. 2009. https://www.portlandoregon.gov/transportation/article/237507.

This article seeks to delineate how interested people are in riding bicycles, including those that currently do not. The purpose is to highlight the proportion of the population that would ride more if conditions were different. Illuminating this community provides city officials with a better understanding of how impactful certain actions will be at growing bicycle ridership.

Hu X, et. al. Behavior Insights for an Incentive-Based Active Demand Management Platform. International Journal of Transportation Science and Technology. 2015;4(2):119-133.

A pilot program was implemented in Los Angeles that investigated the effectiveness of incentivizing congestion reduction through points and rewards. Each day over a ten week period, participants in the study were able to choose from a variety of different routes and departure times for their commute, each one being a different value of points depending on how much it helped reduce congestion. These points could later be redeemed for discounts or other prizes. The results showed that participants changed the route and departure time of 35% of their trips.

Knowle R. Transit Oriented Development in Copenhagen, Denmark: From the Finger Plan to Ørestad. Journal of Transport Geography. 2012;22:251-261. Accessed December 4, 2017.

This article discusses the impacts of transit-oriented development (TOD) in Copenhagen. Focusing on a combination of TOD and stout parking restrictions has enhanced Copenhagen's accessibility to regions farther from the central business district (CBD) than is practical for other cities. This in turn facilitated an expansion of the CBD and increased the city's global economic competitiveness.

Ladd B. You can't build your way out of congestion - Or can you? A century of highway plans and induced traffic. DisP: The Planning Review. 2012;48(3):16-23. doi:10.1080/02513625.2012.759342.

The effect of induced traffic has been acknowledged at least as early as the 19th century, when London recognized that improving congestion at one intersection intensified congestion at another. The phenomenon has been recognized, if only anecdotally, through the automotive age, yet roadways have been expanded anyway. The article argues that this is partly due to the simplicity of the logic (building more roads for more cars is easy to understand, though flawed, appears true), existing entrenched interests, and an assumption that automotive mobility is inherently ideal.

Laurian L., et al. Evaluating the Outcomes of Plans: Theory, Practice, and Methodology. Environment and Planning B: Urban Analytics and City Science. 2010;37(4) 740-757. https://doi-org.proxy.lib.pdx.edu/10.1068/b35051. Accessed December 4, 2017.

This article looks to create a methodology for evaluating planning activities. It makes the case that planning evaluation is important for the creation of the most successful outcomes. The author constructed a hybrid methodology, building upon existing planning-outcome evaluation (POE) theory types. The author applies their POE to case studies in New Zealand. The POE is shown to be adaptable to differing local situations in New Zealand, and by extension, other parts of the world.

Le T, Porter R. Safety Evaluation of Geometric Design Criteria 3 for Entrance-Exit Ramp Spacing and Auxiliary Lane Use. Transp Research Record. Journal of the Transportation Research Board. 2012;2309(250):12–20. doi:10.3141/2309-02.

Spacing between freeway interchanges is known to have a significant effect on road safety. Closer interchanges creates a more dangerous environment by forcing high-speed lane changes in

a short distance. This article models the impact of interchange spacing on safety, while also considering other factors such the presence of auxiliary lanes.

LeRoy B. Eliminating Parking Minimums. Zoning Practice. American Planning Association. 2017;(6). Accessed December 4, 2017.

This article advocates for a change in common city policies: switching from parking minimums to parking maximums for on-street and off-street parking. The article discuss the impacts of parking on streetscape function and aesthetics. The article also points out the effects of parking on development and maintenance costs, which typically get passed onto residents. The author argues that parking serves only one type of user, at the cost of all others, and reduced parking requirements are often born lightly, while many other uses/users benefit.

Loudon WR, et al. Consideration of Congestion Pricing and Managed Lanes in Metropolitan Transportation Planning. Transportation Research Board. 2010;2187. doi:10.3141/2187-09

This article, sponsored by the Federal Highway Administration, performed a study of intergovernmental action at the metropolitan and state levels across ten metropolitan areas, with respect to how these areas conducted long-range planning for congestion pricing and/ or managed lanes. The article provided insight into the regional implications of the different methods and offered ways to evaluate performance of managed lanes or congestion pricing strategies.

Lyles W., Stevens M. Plan Quality Evaluation 1994-2012: Growth and Contributions, Limitations, and New Directions. Journal of Planning Education and Research. 2014;34(4):433-450. doi:10.1177/0739456X14549752.

This article outlines the recent history of the process of evaluating the quality of plans. Due to the recent influx of publications regarding the process of evaluating plans, the article outlines the need for standardized quality metrics to improve reliability and reproducibility of these quality efforts.

Mohl RA, Rose MH. The Post-Interstate Era: Planning, Politics, and Policy Since the 1970s. Journal of Planning History. 2012;11(1):3-7. doi:10.1177/1538513211425786.

Through a historical lens, this article provides an overview of freeway planning in the United States by summarizing five essays. The authors highlight the role of politics and engineering throughout the planning and implementation, or funding, process. Through these roles, the article emphasizes the prevalence of conflict in freeway planning.

Moore R. Venue Transportation Management: An Analysis of Transportation Management Plans in the City of Vancouver. University of British Columbia. 2015. http://hdl.handle.net/2429/53085

This article discusses different implementation options for transportation management goals for venues in the city of Vancouver, B.C. This article examines Transportation Management Plans (TMPS) in a number stadium locations across different North American cities. The article also examines when these TMP implementations might be most effective given a range of variables to be measured at the site of the stadium.

O'Sullivan A. Urban Economics. Eighth Edi. Portland, Oregon: McGraw-Hill; 2012.

Chapter 10 details economic factors involved in transportation. This includes an evaluation of the externalities of automobile travel, the economic value of congestion pricing, and the significance of latent demand.

Portland Traffic Deaths and Injuries since 2006. PBOT. 2017. https://pdx.maps.arcgis.com/apps/MapSeries/index.html?appid=47c2153a3fa84636bb63e25b451372d0. Accessed December 4, 2017.

This interactive map details crashes on Portland streets that resulted in severe injury or death from 2006 through 2016. This map is part of the City's commitment to Vision Zero.

Primer on Truck Lanes in Canadian Urban Areas. Transportation Association of Canada (TAC) 2014. http://www.tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/final_truck_lane_primer.pdf Accessed on November 28, 2017.

This article examines the types of existing urban truck lanes (freight only lanes) and their different implementations throughout Canada, USA, and Europe. The article also makes recommendations for improvements to the performance of these lanes and considerations for when it might be appropriate to implement these urban truck lanes.

Qi Y, Chen X, Cheu RK, et al. Design and Scope of Impact of Auxiliary Lanes. Austin, Texas; 2014. https://static.tti.tamu.edu/tti.tamu.edu/documents/0-6706-1.pdf.

This report attempts to create a set of guidelines for freeway auxiliary lane best practices for the Texas Department of Transportation. The report surveys practices in other states, consults with engineers, and analyzes the safety impacts of existing lanes to develop recommendations.

Schoner JE, et. al. Catalysts and magnets: Built environment and bicycle commuting. Journal of Transport Geography. 2015;47:100-108.

This study sought to understand the relationship between a commuters choice to use a bike and the proximity of bicycle infrastructure. It described bike infrastructure as either "magnets" or "catalysts" to illustrate how it can either attract existing bike commuters or encourage new ones. Simply attracting existing riders to live near bike-friendly developments won't help to get more people out of cars. Thus, an important finding was that bike infrastructure should be built in areas

with a high accessibility to employment as long as routes are built to connect other major job centers.

Sciara G. Metropolitan Transportation Planning: Lessons from the Past, Institutions for the Future. Journal of the American Planning Association. 2017;83(3):267-276

To illustrate the role of Metropolitan Planning Organizations (MPOs) in multimodal planning, Sciara's scholarly article provides a chronological summary of the history of regional transportation planning in the United States since the passage of the 1962 Highway Act. This article offers broad knowledge on the relationship between state and regional planning. Using the historical analysis, the author outlines how MPOs can make reforms to gain stronger representation.

Warwick W. The Planners are Coming! The Planners are Coming! Eliot Neighborhood Association. 2010. https://eliotneighborhood.org/2010/03/28/the-planners-are-coming-the-planners-are-coming

This is a blog post for the Eliot Neighborhood Association website. It discusses The Portland Plan, The Central City Plan, the forthcoming N/NE Quadrant Plan, and many of the issues and concerns regarding them that are likely to affect Eliot Neighborhood residents. The author references neighborhood residents consistent concerns about historic structure preservation. They also express concerns of the probable inclination of city officials to change the area and the past inability of residents to influence processes like these.