

Freeway Deconstruction: Impacts and Prospects

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Abstract: Freeway deconstruction signifies an abrupt shift in urban policy. After 50 years of the greatest road-building binge in world history, cities since the 1960s have considered the benefits of road removal and increasingly incorporated it into their urban planning toolkit. Priorities are shifting away from designing cities to enhance mobility, and toward promoting livability. This paper explores the social, economic, and environmental impacts of road removal, and whether a freeway deconstruction project could realistically occur in Richmond, through an analysis of case studies in road removal. I conclude Richmond is not presently situated to begin a freeway deconstruction project, and suggest steps to consider moving forward.

Keywords: freeway deconstruction, road removal, Richmond, human-environment, transportation, urban planning

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Section I. The Research Question

Freeway deconstruction signifies an abrupt shift in urban policy (Switalski 2004). After 50 years of the greatest road-building binge in world history, cities since the 1960's have more seriously considered the benefits of road removal and have increasingly incorporated it into their urban planning toolkit (Preservation Institute 2007). Each decade since the 1960's includes more deconstruction proposals and projects. Priorities are shifting away from designing cities to enhance mobility, and toward promoting livability (Switalski 2004). My research question is: Is Richmond is a suitable location for a successful freeway deconstruction project?

This question is uniquely important both because of the lack of academic work on the subject and because of what's at stake. The answer may influence the planning, carbon footprint, economy, and culture of Richmond. I aim to contribute to the academic literature on freeway deconstruction by employing a systematic analytic method of five past projects to create a framework to evaluate the future of proposed projects, and then use the framework to assess Richmond's prospects for freeway deconstruction. Even though I'll be looking at Richmond specifically, the framework should be applicable for any city. This question is also important because freeway deconstruction projects are becoming increasingly popular, and unless the inputs that initiate these projects and the effects they lead to are accurately understood, people may not make wise decisions regarding the proposed projects.

To address my research question, this paper will begin by investigating the known causes and impacts of freeway deconstruction. The three inputs I'll consider are public interest in the project, incentives for decision-makers regarding the project, and a suitable target road for the project. The three outputs I'll consider are what I take to be the reasons behind public interest or the incentives for decision-makers – what people expect the consequences to be: environmental impacts, economic impacts, and social impacts. I'll review the five major case studies in freeway deconstruction from around the globe, most of which are in American cities, and identify the inputs and outputs for each. Once they're all identified, I'll look for any emerging patterns or connections between the inputs and outputs of a particular project. Once

I've identified relationships between these six variables (three input and three output) and their consequences, I'll use these to analyze whether Richmond is a suitable location for a successful freeway deconstruction project. And if Richmond were a suitable location, how, where, and why the project would occur.

Case #1: Harbor Drive, Portland, Oregon.

In 1968, Portland's Downtown Waterfront Plan suggested removing Harbor Drive and turning the land into a park to help beautify the downtown riverfront. There was intense public interest in the subject, as manifested by the formation of a local citizen group Riverfront for People, which worked against the possibility of widening Harbor Drive further (Preservation Institute 2007). The group held picnics at the riverfront itself, to draw public attention to the issue. After widespread expression of interest, Governor McCall, an ardent environmentalist, came into conflict with the traffic engineers who insisted closing Harbor Drive would end in disaster (Seattle 2008). The governor pressured Glenn Jackson, chair of the task force designated to look into options for Harbor Drive, to shut down Harbor Drive. When it was finally closed, there were not noticeable traffic problems, and McCall Waterfront Park was built (Seattle 2008).

Directly linked to the Waterfront Park is the development of the Riverfront Project, which added over 480 housing units, a hotel, two restaurants, an athletic club, a marina, and 2000 square feet of retail space. The removal of Harbor Drive allowed for entirely new, valuable, and pedestrian friendly. Since the removal of Harbor Drive, land values in downtown Portland have increased an average of 10.4% annually from a total of \$466 million to more than \$1.6 billion. Before and after comparisons found 9.6% fewer vehicles trips on nearby roads and formerly connecting bridges (Preservation Institute 2007). As part of the shift toward more mass transit options, Portland experienced notably improved air quality and ceased being fined by the EPA for not complying with air quality standards.

Case #2: Embarcadero Freeway, San Francisco, California.

The Embarcadero Freeway acted as a physical and visual barrier between downtown and the waterfront. After an ambitious proposal to crisscross San Francisco with freeways was met with hostile public response, public discourse went from building freeways to tearing them

down (Seattle 2008). The freeway had been proposed for deconstruction once before and was put to a public referendum, but the referendum failed. It wasn't until after damage done by the 1989 Loma Prieta Earthquake, which made residents adjust their travel routes anyway, people thought the freeway was a stronger candidate for deconstruction. A complete street, with protected bike lanes and trolley cars, replaced the freeway.

While difficult to isolate any consequences directly following from the deconstruction, development and property values in neighboring areas have consistently increased since the completion of the project (Preservation Institute 2007). Once it was removed, the waterfront became a popular area. The project did not have the feared effects on local neighborhoods like China Town (Seattle 2008). The overall economic impact of the project both locally, and in the city as a whole, is positive. Nearby residential areas previously described as "plagued with crime" now bustle with upper-scale shopping centers and neighborhoods.

Case #3: Park East Freeway, Milwaukee, Minnesota.

The local government's interest in development and investment in the property around the Park East Freeway was the primary driver behind looking into deconstruction. The expressway was originally part of Milwaukee's plan to increase business with increased mobility, but community activists led by John Norquist (who later became mayor) worked to remove the freeway (Seattle 2008).

The cost to rebuild the aging freeway would have been approximately \$100 million, but replacing it with a complete street network would only cost \$25 million, most of which was paid for with federal funds (Preservation Institute 2007). The city succeeded in its objective of "promoting the development in the area of the Park East Freeway". Newly available land was developed into three distinct neighborhoods with busy commercial centers and modern housing (Seattle 2008).

Case #4: Pompidou Expressway, Paris, France.

The Pompidou case study is unique for a variety of reasons. For one, it is the only major case study that riled up major public resistance, and demonstrated a strong conflict between government's perspective and the citizens' perspective. The new mayor of Paris in 2001, Bertrand Delanoë, closed the expressway for a month in the summer as a core component of

his plan to reduce automobile use. The following year, he even more aggressively converted two lanes of traffic into pedestrian recreation areas, including sand, palm trees, a climbing wall, and ball courts (Seattle 2008). Drivers initially complained traffic congestion had increased dramatically, but a study one year later found 66% of Parisians approved of the mayor's decision. The most common reasons people cited for supporting the decision were the reduced air pollution and new beach space along the river. His support was markedly higher among Parisians who did not own cars. A few years later, the expressway is entirely closed and is in the process of complete conversion to a pedestrian zone (Preservation Institute 2007).

Since then, Paris' carbon footprint and air pollution have decreased significantly (Preservation Institute 2007). The new pedestrian spaces have contributed to rising happiness ratings, as well as Paris' emphasis on social equality. Unlike other case studies, there were less obvious positive economic or development impacts, but they were also less of a priority going into it.

Case #5: Cheonggye Freeway, Seoul, South Korea

Cheonggyecheon, or "clear valley stream", is a seasonal stream that was constructed over to build an expressway. The area had become one of the most congested and noisy parts of the city. 79.1% of residents supported the project, as that area of Seoul went from an enormous concrete industrial stretch to a diverse and well-utilized space (Preservation Institute 2007). The government wanted to improve Seoul's image, and the mayor targeted this area of Seoul because it served as a really prominent example of how their former efforts to be modern and industrial led to some undesirable consequences. Between 2003 and 2005, the roads were removed and the stream was restored, and is now the center of an expansive park.

The land value of adjacent property increased by an average of 30% after the stream was restored (Seattle 2008). The number of vehicles passing through downtown decreased by 9% as the deconstruction project and new management plan took effect. The project also mitigated the heat island phenomena – temperatures in the park are an average of 7 degrees Fahrenheit lower than other parts of the city (Seattle 2008). Even when roadways are a key part of a regional network, this case study exemplifies when deconstruction projects are paired with

management plans and the expansion of public transit, negative impacts are mitigated if not negated.

Summary

Freeway deconstruction acts as a form of urban re-prioritization giving more emphasis to neighborhood quality and less to automobility (Cervero 2006). There are net positive benefits without seriously sacrificing transportation facilitation. However, the location and goals of these projects seem to be prominent factors in their success or failure. Perhaps surprisingly, freeway deconstruction is usually conceptualized as a tradeoff between mobility and urban regeneration, even though these goals don't seem to be as mutually exclusive as believed.

Section II. Research Theory and Argument

The idea of freeway deconstruction can be approached from a variety of perspectives, and different people have different motivations for freeway deconstruction projects. Some may derive interest from moral principles, or dedication to good urban planning, or even trying to bring new life to communities. There is a broad spectrum of paths leading people to advocate for freeway deconstruction (Cervero, Kang, and Shively 2007).

One of these paths stems from ethical objections to the existence of roads. One moral perspective, Deep Ecology (Sessions 1995), believes all life forms have intrinsic value and ought to be treated with equal moral consideration. Under this view, roads could be accused of disproportionately favoring humans at the expense of all other species, and would thereby be unjust structures. The removal of a road would allow for ecological succession, the gradual regrowth of plant life and recolonization of animal life. This action would benefit all species, even humans in many ways, by providing recreational space, provisional resources, pollution reduction, etc. If society adopted a Deep Ecology ethical paradigm, all roads would likely have to be deconstructed in favor of an alternative transportation system that incorporates the needs of all species. Approval for projects would be almost guaranteed, as the ethical imperative would lead to consistent and necessary road removals.

There are also more pragmatic reasons to take interest in freeway deconstruction projects. Even if utility is your primary concern, as is the case with many urban planners,

freeway deconstruction can be an exciting and powerful tool for improving the economy and environment of the city (Switalski 2004, Portland Development Commission 2005). As previously noted, numerous case studies indicate freeway deconstruction is not demonstrated to noticeably congest traffic, while increasing nearby land value and creating incentives for expanded mass transportation (Cervero 2006, Preservation Institute 2007, Seattle 2008). If freeway deconstruction projects were approached from an urban planner's perspective, their merit may be rooted in the quantitative outcomes of the freeway deconstruction projects (Cervero, Kang, and Shively 2007). Therefore, urban planners would approve projects if they were projected to lead to increases in positive factors and decreases in negative factors.

Others may not have ethical or quantitative reasons for being interested in road removal projects. For instance, people who are concerned about the state of their community or neighborhood and are searching for ways to revitalize their area and support their culture may turn to the possibilities freeway deconstruction offers (Davis 1965, Gotham 1999). Especially before the 1960s, many freeways were intentionally constructed to separate white and black neighborhoods, or through the heart of black communities (Davis 1965). This often disrupted many community ties, suppressed local cultures, and economically devastated these areas (Davis 1965, Gotham 1999). So it is easy to see why community activists may have reason to attribute part of their suffering with the construction of these freeways, and why they would want them to be removed. Community activists would react to freeway deconstruction projects based on the projected impacts for communities in multiple dimensions, meaning they would consider things like culture and community space more seriously than the ethically oriented deep ecologists or policy directed urban planners.

But what type of framework makes the most sense for my project? To review, there are three primary aims of this paper. 1) To identify a relationship and highlight patterns or connections between the inputs and outputs of a given freeway deconstruction project in order to extract some guiding principles or general formula as to how these projects are initiated. The inputs are public interest in the project, incentives for decision-makers, and the presence of a suitable target road. The potential outputs are the social impacts, economic impacts, and environmental impacts of the project. 2) To project this general formula onto the city of

Richmond, inserting specific information for each of the three input and three output variables to see if a freeway deconstruction project is feasible. 3) If a freeway deconstruction project is feasible in Richmond, to argue using the formula's variables that the city of Richmond ought to pursue such a project.

Accomplishing the first aim requires examining poll data, interviews with decision-makers, stakeholders, and information about the consequences of the project. I'll look for how the inputs are connected to the potential outputs. To work effectively, this necessitates adopting an objective and pragmatic view. If I want to really draw out how these projects get off the ground, I'll have to look at the public polls, the opinions of decision makers, and the preexisting infrastructure as indicators for what enabled the project. Even more concretely, the projected social, economic, and environmental impacts incentivizing the decision-makers and influence public opinion, have to be viewed the same way the people in that situation did – as real numbers that would manifest themselves if the project became a reality. So if a projection in the proposal for removing Harbor Drive in Portland stated property values in a half mile radius would increase an average of 20%, the accuracy of the prediction, how honestly the prediction was made, or who made the prediction aren't relevant. Even though I am trying to examine how public decisions are made, I am not looking at how the research decisions themselves are being made, but rather how these freeway deconstruction projects are actualized. The original quantifiable projection itself is very relevant for my research, but only because this was the information available to the people and one of the driving incentives behind the project's consideration.

Since all of the six variables I'm trying to make sense of are objective and quantifiable (or should be treated in this context as such), I'll adopt an urban planning perspective to effectively and accurately translate perceived incentives and public interest into the mobilization of a project. As part of maintaining a public policy framework, I'll look both at how these projects impact society as a whole and how policy-makers decide their courses of action (Gotham 1999). This part of my paper will be positivist, quantitative, and objective.

Addressing the second aim will require more on the ground research, as I try to gather more information from community leaders about perceptions of freeway deconstruction and

projected impacts. I'll conduct interviews with citizens and city officials to gather all the same sorts of data I collected from the case studies. Additionally, I'll listen for specific language used by the public and officials to contextualize their overall desires and concerns. Aside from the quantitative analysis I'll carry over from the case studies to apply to Richmond, decision-makers and the general public are also interested in the same sort of "extra" qualities the community activist perspective incorporates. If their answers indicate a particular need is framing their answers, that's important. For instance, if the public was concerned about the degradation of the Church Hill community in Richmond, the way they frame and their interest in the project will be shaped by factors going beyond a strict quantitative policy analysis. If a suitable target road were identified that ran through the center of Church Hill, people may respond to the proposal differently than for a freeway through The Fan, even if the statistical benefits in each area were approximately the same. Since writing this part of my paper necessitates consideration of both quantitative and external social or emotional factors, I'll adopt a participatory and action-oriented perspective while applying the general formula to Richmond (Davis 1965, Gotham 1999).

The third aim of the paper is only present if a freeway deconstruction project is feasible in Richmond, depending on what's discovered in the first two sections of the paper. If I want to make a compelling case for beginning a freeway deconstruction project, I'll want to appeal to as many different rationales people may have regarding the project. As stated earlier, there are many ways people may find themselves interested in freeway deconstruction, and I want to cover as many of them as possible. I'll have already made an implicit argument using a quantitatively oriented urban planning framework, by examining the case studies and discussing the projected and manifested social, economic, and environmental consequences of these projects. I'll also have already appealed to those whose interests lie in the community as a whole and the social situation of the city's citizens. Having made social, economic, and environmental arguments for freeway deconstruction, it seems important to incorporate a moral element. I'll argue most moral paradigms, especially ecologically oriented ones such as social ecology or deep ecology, would support freeway deconstruction projects as the right thing to do for both human and non-human life (Sessions 1995).

By trying to respond to all possible starting points of interest in freeway deconstruction, I'll hopefully be able to both objectively demonstrate that a freeway deconstruction project would be a pragmatically wise choice, but also something that we have an obligation to pursue for bettering the biotic community.

Section III. The Research Methods and Analysis

I am collecting data on my chosen case studies and on Richmond itself to explore what connections may exist between the input variables (public interest, incentives for decision makers, and the existence of a suitable target road) and the output variables (the social, economic, and environmental consequences) of the project. My method is to reveal any patterns between these variables in the case studies, and then project those connections onto the available information on Richmond, VA in order to see if a freeway deconstruction project is feasible in Richmond. I am interested in the information the decision-makers and voters had at the time of the project's approval for each case study, since that is the window of time I want to tackle in Richmond. I will begin by reviewing the sources and types of data I am looking at regarding the case studies.

Government reports created in response to proposed freeway deconstruction projects contain much of the relevant data for my research. They specifically address the variables I'm interested in: the social, economic, and environmental consequences of the project. The reports also often indicate what the initial motivation for looking into the project was, and who the key leaders were (Portland Development Commission 2005). Whether in documents determining the manifestation of a project, or in more current reports looking back to evaluate historical examples of freeway deconstruction, there is critical information for each of the five case studies I am utilizing for this study. The retrospective reviews present a lot of statistical analysis of the outcomes of these projects, figures like "since the removal of Harbor Drive, land values in downtown Portland have increased an average of 10.4% annually from a total of \$466 million to more than \$1.6 billion" (Seattle 2008). Comparing these figures to the previously projected figures will establish how reliable projections are for these projects, which then inform future proposals. Various government groups have contributed to this literature, including the Wisconsin Regional Planning Commission, the Seoul Development Institute,

Portland Development Commission, and Seattle Department of Transportation. These sources indicate freeway deconstruction projects are heavily reviewed at the regional and city level.

Non-profit organizations and think tanks interested in road removal are spreading and publishing information advocating for taking action for a variety of reasons (Cervero, Kang, and Shively 2007, Preservation Institute 2007). For instance, The Preservation Institute, a non-partisan think tank grounded in the belief that we ought to preserve the natural and social environment by modernizing selectively, created an interactive website based on one of their papers making the case for freeway deconstruction (Preservation Institute 2007). I'll employ the data they've produced to make connections between the perceived suitability of a project and the resulting outcomes. Other non-profits and think tanks who have published on freeway deconstruction include the University of California Transportation Center and Transportation Alternatives. These sources maintain generally progressive outlooks, and there don't seem to be any opposing groups or non-profits whose mission is to stop freeway deconstruction.

Additionally, conducting phone interviews with local city officials were my primary means of acquiring information for each variable about the city of Richmond. With no published literature on road removal in Richmond or government-endorsed studies exploring potential outcomes of freeway deconstruction, these key officials are the best resource for information. Interviewing people in the Virginia Department of Transportation, the mayor's office, and the parks director is important because they are the people who have already thought over the idea of freeway deconstruction in Richmond. They also have personal experience working with citizens over transportation projects and have a good sense of what the public is interested in partly by attending public comment meetings. Speaking to them provides informed answers about Richmond's potential for a freeway deconstruction project.

I will now to proceed to examine and analyze the data itself for each of the case studies.

Harbor Drive, Portland

Input Variables – Portland's government, author of Portland's Downtown Waterfront Plan, proposed the Harbor Drive removal project. Public interest in the project was very high. Furthermore, the public demonstrated interest in the form of a local citizen group called

Riverfront for People (Preservation Institute 2007). They drew attention to the issue to a larger network of people than would otherwise have mobilized. By making the fate of Harbor Drive a topic of public discourse, Riverfront for People provided politicians with incentives for championing the project. Politicians wanted to capitalize on public interest and get their names attached to something popular with the voters. Harbor Drive was a suitable target road partially just because it was called out by name in the Downtown Waterfront Plan, but also because downtown lacked any riverfront access (Seattle 2008) (See Figure 1).

Output Variables – Harbor Drive was the first major freeway deconstruction in the USA, so there was curiously little evidence to persuade politicians this project would provide positive outcomes. While the Downtown Waterfront Plan posited downtown Portland may generate higher land values with a scenic park and public space, it was not at all certain to outweigh the loss of the freeway (Preservation Institute 2007). In this case, the primary driver was the social utility the space would provide. The mayor calculated the unclear economic outcome was acceptable since the project was so popular and would definitively provide a social benefit. Undoubtedly, the project also carried environmental benefits, but it's unlikely this significantly influenced policy makers at the time.

Analysis – A few substantial lessons can be extracted from the Harbor Drive story. It is uniquely situated as the first project of its kind in America, indicating at least in this case, popular interest in the project for the social utility it would provide was enough to convince politicians to act. If a different freeway had been the subject of this debate in Portland, the project probably would have had a harder time coming to fruition. The specific location of Harbor Drive drew considerable public interest – it was the central location to help beautify downtown and the only direct access point to the Willamette River (See Figure 2). The location is also what drew the initial attention of the drafters of the Downtown Waterfront Plan (Seattle 2008). Therefore, Harbor Drive's deconstruction suggests 1) the suitability of the target road may act as the primary driver in initiating successful deconstruction projects, and 2) popular interest and projected social utility can be enough to incentivize political decision-makers.

Embarcadero Freeway, San Francisco, California:

Input Variables – The Board of Supervisors of San Francisco, inspired by the success of Harbor Drive, put the deconstruction of the Embarcadero Freeway to a city-wide referendum in 1986. The measure failed, largely due to vocal opponents claiming the closure of the Embarcadero Freeway would lead to gridlock (Preservation Institute 2007). Then in 1989, when the Loma Prieta earthquake damaged the Embarcadero and other freeways in the area, a new debate began about whether to repair or remove the freeway. The earthquake temporarily closed the Embarcadero, and after a short period of congestion, traffic adjusted to the new conditions (Seattle 2008). With none of the suggested gridlock manifested, opponents lost their strongest argument and the project moved forward. The Embarcadero, located along the bay, created a physical and visual barrier between downtown and the waterfront (See Figure 3). The geography of the freeway was a critical element that fostered interest for environmental groups, civic groups, and business groups wanting to build along the waterfront.

Output Variables –After the success of Harbor Drive, many politicians and voters were aware of the social, economic, and environmental benefits of freeway deconstruction. However, none of these reasons alone were particularly attention-grabbing for either citizens or local politicians. San Francisco has a much higher population than Portland, and the potential advantages of deconstruction were met with more skepticism due to anticipated traffic congestion.

Analysis – In this case, the foresight of city planners and not popular support brought the proposal to the ballot box. What popular support existed was fragmented among different groups without one particular factor galvanizing the city's population. The Embarcadero deconstruction proposal was met with hostility by some people in a fashion that hadn't occurred in Portland. Public officials spoke boldly about their fears for traffic congestion and an ineffective transportation system (Preservation Institute 2007). Clearly this fear resonated with voters, as they rejected the proposal until it was forcibly proven to them via natural disaster that traffic was still going to circulate fine without the Embarcadero. Therefore, the Embarcadero's deconstruction suggests 1) fear of traffic congestion is a major obstacle to approving freeway deconstruction projects, and 2) popular interest is a more effective catalyst

when there is less vocal opposition, and 3) the suitability of the road (it's location, role in the local traffic network, and congestion) is only the starting point for interest in the project.

Park East Freeway, Milwaukee, Minnesota

Input Variables – The Park East Freeway was an easy target, as it was an underused road that was a segment of what was supposed to become a much longer interstate highway (See Figure 5). Local politicians were heavily motivated to propose the deconstruction of the Park East Freeways, particularly for economic reasons. Rebuilding the freeway would have been very expensive, and city officials and businesses wanted to develop the area. Many local businesses supported removing the freeway, and spoke in support of the government's plan. However, a group of concerned citizens argued back that the freeway was the lifeblood of downtown, and without it the city's economy and transportation efficacy would be crippled (Preservation Institute 2007).

Output Variables – Projected economic benefits for the deconstruction were the driving incentive for political decision-makers. The cost to rebuild the aging freeway would have been approximately \$100 million, but replacing the freeway with a complete street network would only cost \$25 million, most of which was paid for with federal funds (Preservation Institute 2007) (See Figure 4). Not building the freeway also freed up lots of land for businesses to buy in the heart of the city. While there were also social and environmental advantages (such as more pedestrian friendly spaces and cleaner air) to the project, it was proposed, argued for, and argued against heavily on economic grounds.

Analysis – The target road was an easy and predictable choice for city officials to make, as an unfinished highway in a promising development area is a prime subject for a deconstruction project. Unlike San Francisco, where the debate pivoted on the issue of traffic congestion, Milwaukee's debate was focused on the economy. The initiation of the project was easy, but the controversy over the projected economic outcome became the deciding factor in its fruition. Therefore, the Park East Freeway's deconstruction suggests 1) the certainty of a potential incentive can act as the determinant factor in a project's fruition, and 2) economic incentives appeal to a wide range of citizens.

Pompidou Expressway, Paris, France

Input Variables – As part of the recently elected mayor’s pledge to reduce automobile use, the Pompidou Expressway was shut down for one month each summer from 2001 to 2007 (Seattle 2008). The action was initially received very negatively, with people claiming this single handedly crippled transportation in Paris. However, over time, the summer closing became a more popular measure as people enjoyed the additional public space (See Figure 6). The Pompidou Expressway was closed permanently in 2010, in conjunction with the mayor’s plan to cut automobile use by 40% and greenhouse gas emissions by 60% (Preservation Institute 2007). The initial driving force in this instance was the mayor, with then fostered growing public support over time. The choice of the target road was more for its prominent location and the interest it would incite in the public, but had the added benefit of being an attractive location to generate pedestrian traffic (See Figure 7).

Output Variables – The mayor’s incentives were largely social and environmental. During his initial program of shutting down the Expressway for the month of July, he explained how he believed doing so would provide recreational opportunities for Parisians along the river while decreasing pollution and increasing quality of life. While there is a development aspect to the redesign of the Pompidou Expressway area, economic rhetoric was not a primary feature of the mayor’s initiative or the subsequent debate.

Analysis –In this instance, politicians took action without initial popular approval, but approval grew over time. Originally framed as an effort to improve social quality of life, the permanent shut down of the Expressway wasn’t approved of until after multiple years of public exposure along with an aggressive plan to tackle greenhouse gas emissions. Therefore, the Pompidou Expressway’s deconstruction suggests 1) forced exposure to the impacts of deconstruction may help improve public approval of these projects, and 2) how stakeholders initially frame deconstruction projects may differ from interests that emerge afterward, and 3) this is the first instance where environmental incentives to improve the human condition were the primary driver in officially closing the road, though only after citizens experienced all of the cultural and social benefits of a pedestrian-friendly space.

Cheonggye Freeway, Seoul, South Korea

Input Variables – The Cheonggye used to be a river running through Seoul. A freeway constructed over the stream and stopped water flow (See Figure 8, and Figure 9). Since then, the Cheonggye area of Seoul had become one of the noisiest and most congested parts of the city (Seattle 2008). City planners and citizens agreed nothing could be done to improve the area so long as the Freeway remained. At the time of the Cheonggye Freeway demolition, 79.1% of Seoul’s residents supported the plan (Preservation Institute 2007). Politicians were eager to tackle the deconstruction of the freeway because of the popular support it enjoyed, which facilitated a speedy project completion time.

Output Variables – The Cheonggye case exemplifies all three incentives exerting relatively equal influence. The Freeway was economically frustrating, environmentally devastating, and socially obstructive. With the exception of some local businesses worried about how the deconstruction would affect their revenue, there was little reason to question the positive impacts of deconstruction. The air in the heart of Seoul became significantly cleaner and the waterway ran naturally with all of its tributaries again (Seattle 2008). The decrease in noise, pollution, and traffic all made the area around the river much more attractive to prospective businesses, as adjacent land values increased by an average of 30%. In addition, the development of a park around the river brings in about 90,000 people to the area every day (Seattle 2008) (See Figure 10).

Analysis – Of all five case studies, the deconstruction of the Cheonggye Freeway had the most public support by a significant margin. The fact that it appealed to all three categories of incentives (economic, social, and environmental) for both politicians and citizens is likely the cause. This case also exemplifies a trend in freeway deconstruction projects where the areas that are cleared become locations for parks and pedestrian-centric areas. Therefore, the Cheonggye Freeway’s deconstruction suggests 1) when a project addresses more categories of incentives (social, economic, environmental), it garners the favor of more people, and 2) when incentives are not in competition with each other, there is not a vocal opposition.

In review, these five case studies have demonstrated the following about each of the six variables of interest. Road suitability: Projects targeting incomplete or unpopular roads are most successful. Incentives for decision-makers: Confidence in the consequences of the project

and public interest are the primary motivators for politicians. Public interest: Heavily dependent on projected consequences of project, and much more sensitive to short-term problems like traffic congestion. Social consequences: These are the most commonly cited incentives, likely because they appeal to a wide range of people and are easier to tackle by politicians. Economic consequences: Potentially the most divisive incentive, people are most vocally opposed to projects with uncertain economic outcomes. Environmental consequences: Rarely a primary motivator, though often times the most positive consequence of these projects.

With all the case studies and variables analyzed, I will now project this information onto the city of Richmond to investigate the potential of a freeway deconstruction project is feasible there. Local sources seem skeptical of all three input variables needed for a project to come to fruition. Dale Tottin of Virginia's Department of Transportation explained that, "often times we find that the public is very skeptical of straight-up deconstruction. Most of our projects are road alterations that try to accomplish the same goal but without removing entire roads" (Tottin 2012). Full deconstruction projects have been proposed in the past, but most are immediately shot down or changed in favor of alterations. He continued, "I've noticed that when our projects and their goals are more clearly explained during the public hearing process, the public is much more supportive of our initiatives" (Tottin 2012). Tottin's remarks indicate the low public interest in freeway deconstruction may stem from a lack of knowledge about how these plans are implemented and what their benefits are.

Furthermore, when Ralph White, manager of the James River Park System, was asked if the city had any suitable target roads for deconstruction, he replied "not anything that draws attention" (White 2012). He explained that, "congestion is already a problem, and key folks like the city's transportation engineer, Thomas Flynn, are all about just building more and more roads" (White 2012) These comments suggest even if there were a suitable target road, city officials are overlooking this via ideological preferences. "They aren't very progressively minded. Focus, if any, is retrofitting roads, not removing them" (White 2012). Without an obvious target road and unreceptive public opinion, decision-makers appear unmotivated to

consider freeway deconstruction. Considering it is unclear how such a project would economically benefit the city, the social and environmental incentives may not be enough to influence politicians.

Vickey Badger is the principal planner for the city of Richmond and has been involved in the city's transportation planning for over two decades. When asked about the prospects for a freeway deconstruction project in Richmond, she stated, "I'm personally interested in deconstruction projects, they've had good outcomes in other places. Right now though, it's not a reality. We can't start ripping out heavily trafficked roads until we improve our mass transportation infrastructure, which is what we're working on now" (Badger 2012) (See Figure 11). Even for public officials who do take an interest in freeway deconstruction, there are practical obstacles they need to overcome before they can realistically begin to seriously advocate for freeway deconstruction projects.

Each of these phone interviews conveys the sense that the manifestation of freeway deconstruction projects in Richmond face serious obstacles.

Section IV. Conclusion

Based on this information, it seems the first step that should be taken for promoting the possibility of a freeway deconstruction project in Richmond would be to improve the mass transportation available so deconstruction becomes a productive activity instead of a strain on transportation infrastructure (Badger 2012). Secondly, educating the public by encouraging attendance at public hearings or providing more information online about why different transportation options ought to be considered. Attendance at these meetings informs citizens and allows them to ask questions about things they are uncertain about to better understand why deconstruction can be a positive activity (Tottin 2012). Third, the public officials that do take an interest in deconstruction, such as Vickey Badger, will have to be willing to challenge rival officials who maintain ideologies against deconstruction, such as Thomas Flynn (White 2012).

Deconstruction could happen in the future if all of these steps are taken, but even then it would be more difficult than in any of the aforementioned case studies due to a lack of a clearly identifiable target road. Freeway deconstruction is a tool in an urban planner's toolkit

that can be successful applied if the situation fits. If it turns out no roads in Richmond appear outstanding candidates for deconstruction, maybe it is best to find other ways of achieving the same economic, social, or environmental goals without blindly applying a method just because it worked in other places. Every city has unique qualities that demand local answers.

Appendix

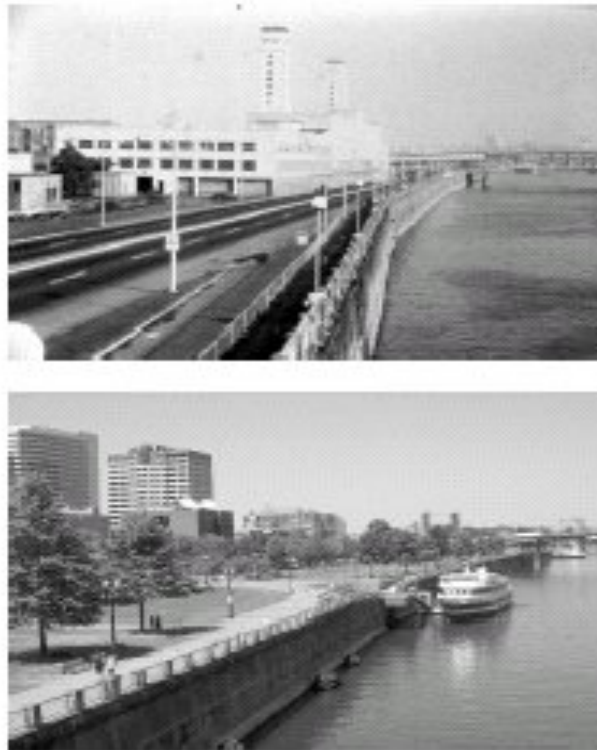


Figure 1: Harbor Drive before and after the deconstruction project.
<http://www.preservenet.com/freeways/FreewaysHarbor.html>

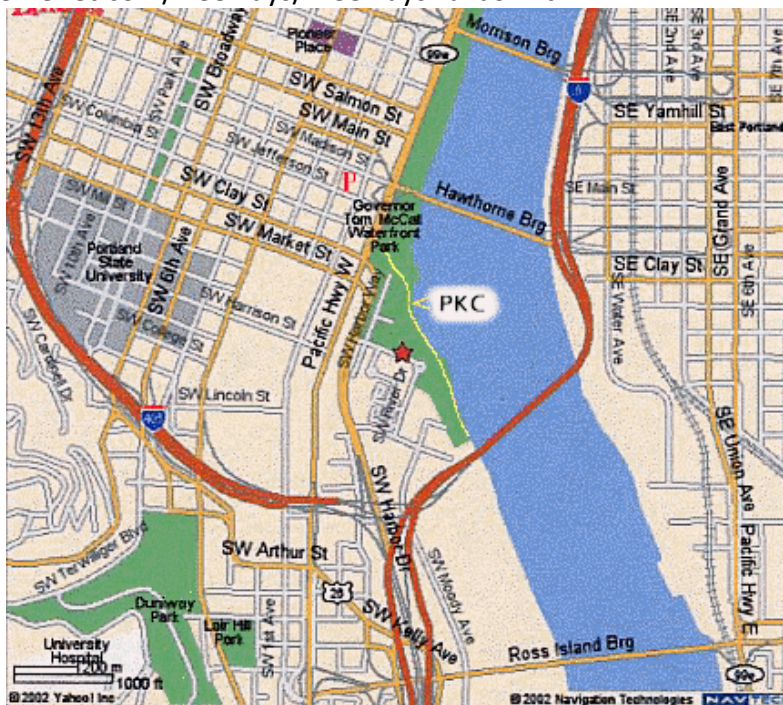


Figure 2: A map displaying Harbor Drive's central location in the city along the river.
<http://www.portlandkayak.com/prcwebpics/map1.gif>

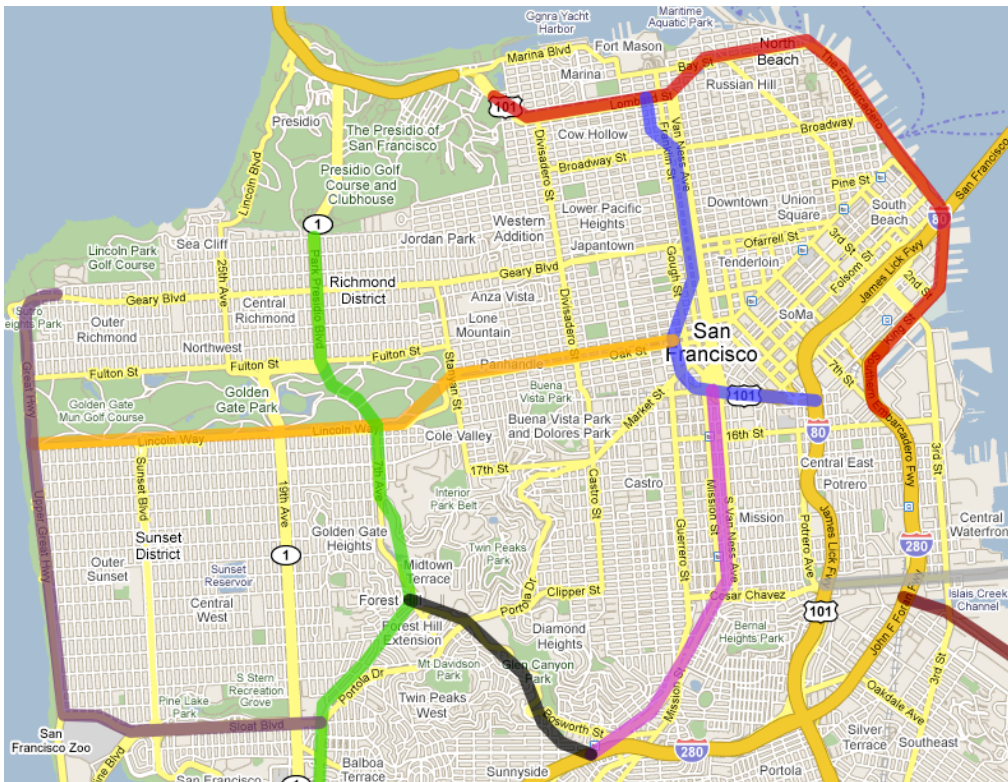


Figure 3: A map of San Francisco displaying where the Embarcadero Freeway used to be along the water (in red). http://sf.streetsblog.org/wp-content/uploads/2009/03_26/Picture_4.png

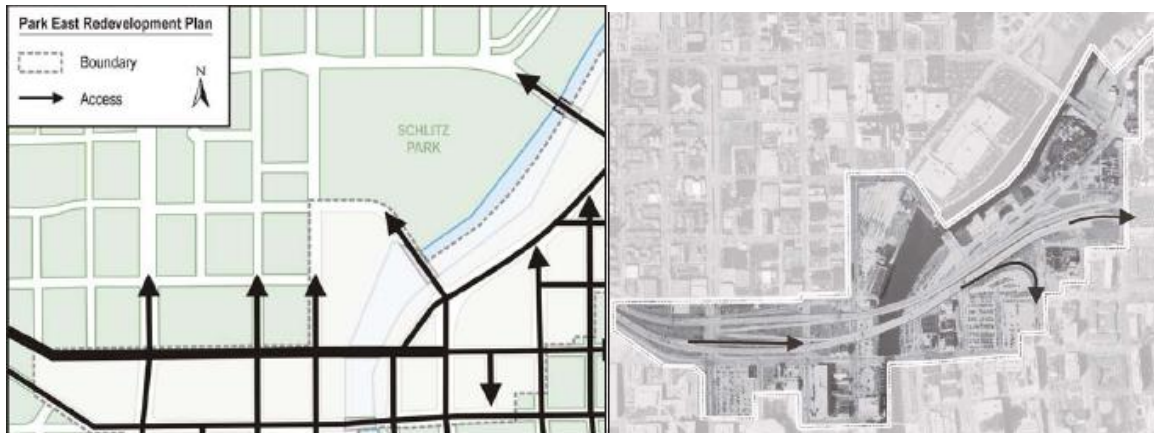


Figure 4: Milwaukee's city council's map displaying their plan to disperse traffic onto other streets rather than funnel it all through one highway. http://www.wisconsinhighways.org/milwaukee/images/illus_parkeast_aerial2000.jpg



Figure 5: This image displays how typically underutilized the Far East Expressway was. <http://www.preservenet.com/freeways/ParkEastEmpty.JPG>



Figure 6: This picture depicts what became of the Pompidou Expressway, a pedestrian-centric area. <http://www.preservenet.com/freeways/FreewaysPompidou.html>

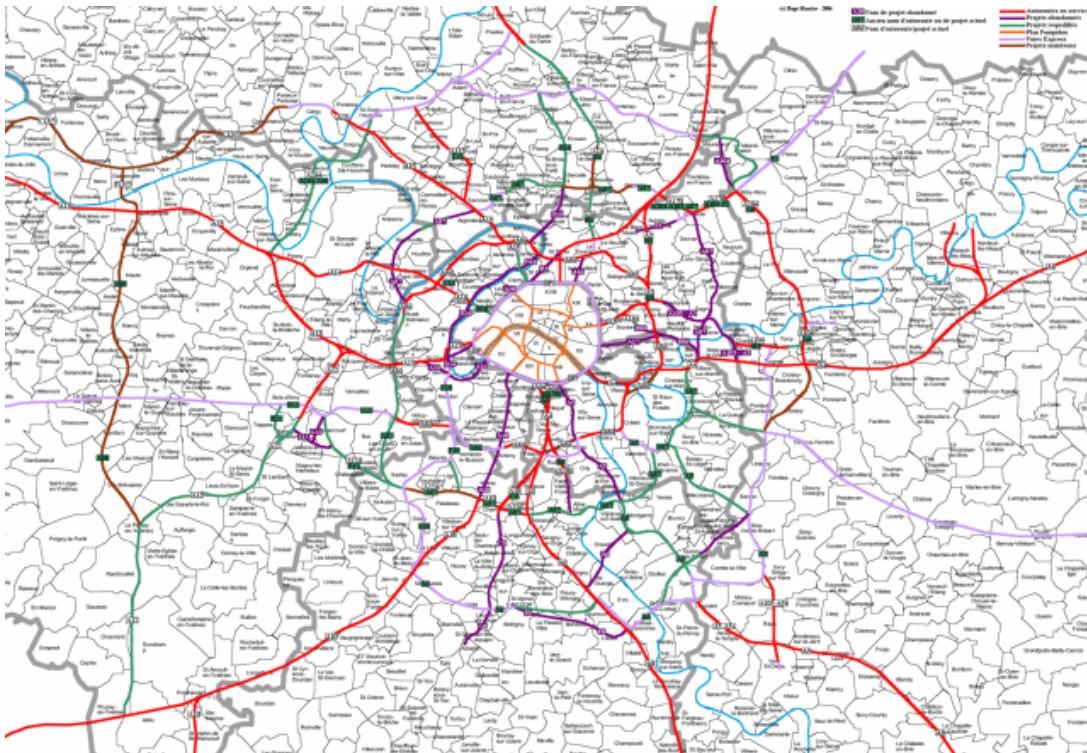


Figure 7: A map of Paris depicting the central location of the Pompidou along the river (in purple). <http://imageshack.us/f/152/162xr8.gif/>

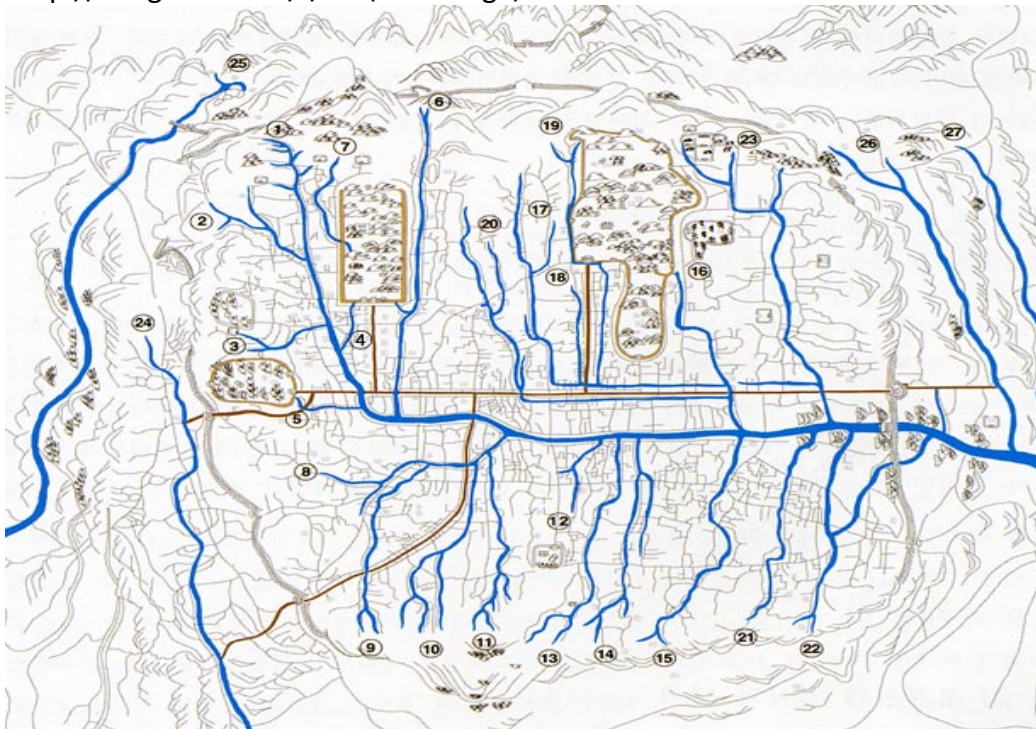


Figure 8: This map of Seoul shows the pathway that the Cheonggye river takes through the heart of the city and all of its tributaries. <http://www.preservenet.com/freeways/FreewaysCheonggye.html>



Figure 9: This is the Cheonggye Freeway that used to cover the Cheonggye river.
<http://www.preservenet.com/freeways/FreewaysCheonggye.html>



Figure 10: The restored Cheonggye river surrounded by the park.
<http://www.preservenet.com/freeways/FreewaysCheonggye.html>



Figure 11: Map of Richmond, VA.

http://www.visitrichmondva.com/var/ezwebin_site/storage/images/media/images/richmondgooglemap/54393-1-eng-US/RichmondGoogleMap.jpg

Works Cited

Amendment to the Regional Transportation Plan: Park East Freeway Corridor. As Adopted by the Southeastern Wisconsin Regional Planning Commission, February 2006

Badger, Vickey. Telephone Interview. 08 04 2012.

"Bronx Hears Case for Road Removal." *Transportation Alternatives Magazine* 10.4 (2004)

Cervero, Robert. "Freeway Deconstruction and Urban Regeneration in the United States." October 2006 Seoul Development Institute <<http://csur.t.utokyo.ac.jp/ws2004/papers/B7-Hwang.pdf>, http://www.sdi.re.kr/nfile/zcom_eng_bbs/urban_6.pdf>

Cervero, Robert, Junhee Kang, and Kevin Shively. "From Elevated Freeways to Surface Boulevards: Neighborhood, Traffic, and Housing Price Impacts in San Francisco." University of California Transportation Center, December 2007. Web. 28 Feb 2012. <<http://www.uctc.net/papers/836.pdf>>.

Davis, James. "The Effects of a Freeway Displacement on Racial Housing Segregation in a Northern City." *Phylon*. 26.3 (1965): 209-215. Web. 08 Apr. 2012.

Gotham, Kevin. "Political Opportunity, Community Identity, and the Emergence of a Local Anti-Expressway Movement." *Social Problems*. 46.3 (1999): 332-354. Web. 08 Apr. 2012. <<http://www.jstor.org/stable/pdfplus/3097104.pdf?acceptTC=true>>.

Portland Development Commission. *Urban Renewal: Its Role in Shaping Portland*. 2005.

"Removing Freeways – Restoring Cities." Preservation Institute, 2007. Web. 27 Feb 2012. <<http://www.preservenet.com/freeways/FreewaysTear.html>>.

"Seattle Urban Mobility Plan." *Case Studies*. City of Seattle, January 2008. Web. 28 Feb 2012. <[http://www.seattle.gov/transportation/docs/ump/06 SEATTLE Case studies in urban freeway removal.pdf](http://www.seattle.gov/transportation/docs/ump/06_SEATTLE_Case_studies_in_urban_freeway_removal.pdf)>

Sessions, George. *Deep Ecology for the 21st Century*. 1st ed. Boston: Shambhala Publications Inc., 1995. Print.

Switalski, T. A., et al. "Benefits and Impacts of Road Removal." *Frontiers in Ecology and the Environment* 2.1 (2004): pp. 21-28. Web.

Tottin, Dale. Telephone Interview. 28 03 2012.

White, Ralph. Telephone Interview. 28 03 2012.