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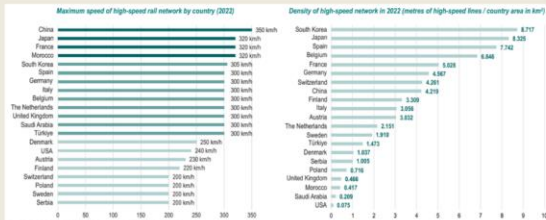
# High-Speed Rail (HSR) Policy and Politics in Washington



Avoiding the Mistakes of the Past

## 01. Introduction

HSR is a method of transportation that is heavily utilized in much of the world for short-medium-range travel. It offers numerous environmental and economic advantages over flying and driving and is an often-discussed topic in transportation circles. However, the U.S. lags behind the world in HSR development overall, with many failed or stalled attempts to construct HSR as a result of political difficulties. Amtrak's Acela is currently the only HSR line in operation in the U.S.A., with travel times and speeds that fail to match the international standard, and the CA HSR project has repeatedly gone over budget, with delays in the construction timeline as well. In the Pacific Northwest, the Cascadia Corridor has been identified as a potentially viable location for HSR, connecting Vancouver B.C., Seattle, WA, and Portland, OR. The WSDOT is currently conducting a feasibility study on HSR in the area, but there is a gap in the literature addressing the politics and policy. My thesis aims to address state-level HSR policies and politics with a focus on Washington State.



## 02. Thesis Objectives

- To evaluate policies in place for HSR development and formulate a menu of policy options for HSR
- To identify the factors that shape the political feasibility of HSR in Washington State

## 03. Policy Issues in HSR

Preliminary analysis of the existing literature on HSR has revealed numerous policy vulnerabilities for HSR construction and operation. My thesis will create policy matrices comparing the existing legislative support for HSR by state, as well as a multi-criteria analysis of various policy packages. For the purpose of policy analysis, I will be identifying impeding factors for HSR to create categories describing various policy elements for HSR. Some of these elements include:

- Safety Policies
- Environmental Policies
- Operation Standards
- Land-Use Policy
- Land Acquisition Policy
- Funding Policies
- Organizational Structure

## 04. Learning from CA

Utilizing precinct level data from the 2008 election, I created a regression model that projects voter support for Proposition 1A, the 2008 initiative to approve the construction of the California HSR project. Being the only voter approved initiative to construct HSR in the U.S., the data from the 2008 election can ideally be used to eventually project voter support for HSR in Washington State.

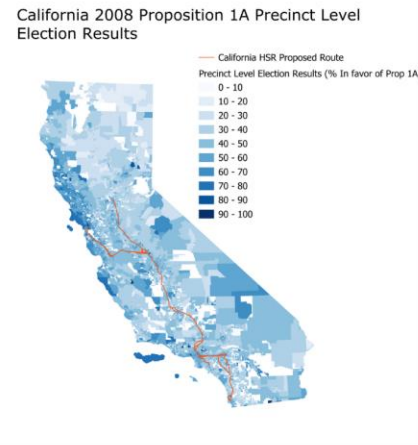
### Independent Variables

- Percentage Vote in Favor of a Democratic President
- Percentage vote in favor of prop 10 (Funding for renewable fuels)
- Distance between precinct and CA HSR Route
- Distance between precinct and nearest commercial airport

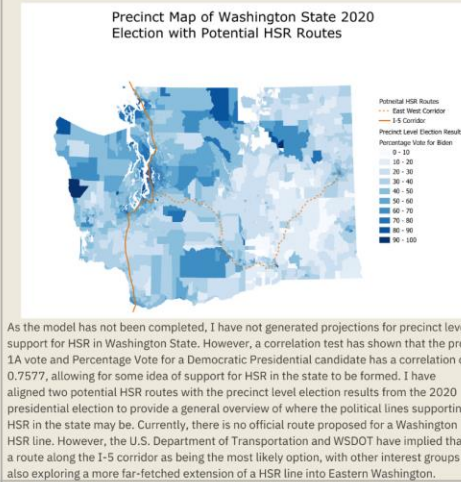
## 05. Initial Results

The results of the regression found all 4 independent variables to be significant (0.001), with an R-Squared of 0.6285. The variables for the votes in favor of a Democratic presidential candidate and Prop 10 had larger coefficients, both having a positive relationship with votes in favor of Prop 1A. The negative relationship between the two distance variables and the Prop 1A vote could indicate that voters may potentially support HSR more if they are closer to the proposed route or a commercial airport. Multiple analyses of the CA HSR project have implied that route extensions into the less populated central valley were made with the intention of winning over voter support in a conservative area; my thesis will explore this theory and run multiple projections with differing route options in Washington to test the validity of this planning approach. Further testing on these variables needs to be conducted, and additional variables will need to be included to better project voter support for Prop 1A.

## California 2008 Prop 1A Results



## Washington 2020 Election Results



As the model has not been completed, I have not generated projections for precinct level support for HSR in Washington State. However, a correlation test has shown that the prop 1A vote and Percentage Vote for a Democratic Presidential candidate has a correlation of 0.7577, allowing for some idea of support for HSR in the state to be formed. I have aligned two potential HSR routes with the precinct level election results from the 2020 presidential election to provide a general overview of where the political lines supporting HSR in the state may be. Currently, there is no official route proposed for a Washington HSR line. However, the U.S. Department of Transportation and WSDOT have implied that a route along the I-5 corridor as being the most likely option, with other interest groups also exploring a more far-fetched extension of a HSR line into Eastern Washington.

## 06. Future Additions

At the time of the completion of this poster, the project is still in its early phases. Numerous variables have yet to be added to the regression. Some of these potential variables include:

- Demographic variables such as the race and gender makeup of the census tracts
- Census tract income data
- Traffic variables to account for existing highway and air traffic
- A variable representing existing transit ridership
- Other potentially relevant propositions

For the purpose of policy analysis, I will assess the state level policies regarding HSR in all U.S. States that have either initiated HSR projects or been identified as being located in a potential HSR corridor by the U.S. DOT. This assessment will utilize the before mentioned policy matrices to identify legislative weaknesses in the ability for a state to support HSR.

### Sources

2008 General Election Precinct Data. (2008). Statewide Database, California, United States of America: University of California Berkeley Law. Retrieved from <https://statewidedatabase.org/d00/g08.html>  
Geography and Railway Traffic Research Group. (2023). High-Speed Rail Atlas. International Union of Railways.  
Hlavac, M. (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables. R package version 5.2.3. Retrieved from <https://CRAN.R-project.org/package=stargazer>  
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	Dependent variable: Prop 1A Percentage Vote Yes
Percentage Vote Democrat	0.47417*** (0.00361)
Distance To Proposed HSR Line (km)	-0.00027** (0.000000)
Distance To Nearest Commercial Airport (km)	-0.00027** (0.00000)
Percentage Vote Yes Prop 10	0.26585*** (0.00564)
Constant	0.14672*** (0.00264)
Observations	21,787
R <sup>2</sup>	0.62850
Adjusted R <sup>2</sup>	0.62843
Residual Std. Error	0.08632 (df = 21782)
F Statistic	9.212.74200** (df = 4, 21782)
Note:	*** p < 0.001 ** p < 0.01 * p < 0.05