



CLARK COUNTY HIGH CAPACITY TRANSIT SYSTEM STUDY

Evaluation of Wide Range of Potential HCT Corridors – Initial Screening

The Clark County High Capacity Transit System Study is a comprehensive study effort that will evaluate and recommend a long-range high capacity transit system to serve the travel needs of Clark County residents. The final system plan will be based on a detailed assessment of HCT modes in the most promising HCT corridors in the county. The study will also identify land use and transportation policies that would be supportive of high capacity transit development in the applicable corridors.

This initial screening is an opportunity to narrow the range of potential HCT modes and corridors to those that have the most promise to meet the long-range travel needs of Clark County residents. The corridors are evaluated based on travel demand, travel conditions, land use and growth and socio-economics. The following describes the wide range of corridors and the technical evaluation.

Evaluation Criteria

For this initial screening, the following evaluation criteria are applied:

Travel Demand

- *Vehicle Trips* – The number of PM peak hour trips forecast in the corridor in 2030.
- *Existing Transit Riders* – The level of transit ridership in the corridor.
- *Concentration of Trip Ends* – Assessment of the number of AM peak hour trips in the corridor coming from areas with relatively high population densities or going to areas with relatively high employment densities.

Travel Conditions

- *Congestion* – The level of congestion forecast in the corridor. This measure is based on the proportion of lane-miles that are congested in the PM peak hour in 2030.
- *Travel Time* – Assessment of the time it takes to travel from one end of the corridor to the other during the PM peak hour in 2030 compared to free-flow travel time.

Land Use and Growth

- *Plan Support for HCT* – A qualitative assessment of the level of support in local land use plans and policies for high-capacity transit.
- *Total Households and Growth* – An evaluation of the current population of the corridor and the amount of population growth projected between 2004 and 2024. Weight is given to both level of growth and total population.
- *Household Density* – A measure of the projected population density in the corridor in 2024.
- *Total Employment and Growth* – An evaluation of the current employment in the corridor and the amount of growth in employment projected between 2004 and 2024. Weight is given to both level of growth and total employment.
- *Employment Density* – A measure of the projected employment density in the corridor in 2024.
- *Activity Centers* – A qualitative assessment of the number and size of regional trip destinations in the corridor.

Environmental and Socio-Economic

- *Environmental* – An initial assessment of the amount of environmentally sensitive land in the corridor.
- *Socio-Economic* – An assessment of the proportion of low-income, minority, disabled, and elderly population in the corridor.

Wide Range of Corridors

Fifteen corridors were evaluated in the initial screening process:

- *I-5 South* – A north-south corridor that serves travel between downtown Vancouver and the Salmon Creek area. It includes I-5, Main Street, Highway 99, and Hazel Dell Avenue.
- *I-205 South* – A north-south corridor that serves travel on the east side of the region between the Columbia River and the Salmon Creek area. It includes I-205, Andresen Road, and 112th Avenue/Chkalov.
- *SR 500 West* – An east-west corridor that serves travel between central Vancouver and the Orchards area. It includes SR 500, Fourth Plain Boulevard, and Burton Road.
- *SR 14 West* – An east-west corridor that serves travel along the north shore of the Columbia River between Downtown Vancouver and I-205. It includes SR 14, Mill Plain Boulevard, and Evergreen Boulevard.

- *164th* – A north-south corridor that serves travel on the east side of the region between the Columbia River and the Orchards area. It includes 136th/137th/138th Avenue, 162nd/164th Avenue, and 192nd Avenue.
- *Cascade Park* – An east-west corridor that serves travel on the east side from I-205 to the Fisher’s Landing area. It includes Mill Plain Boulevard, and SE 1st Street.
- *I-205 North* – A north-south corridor that serves travel between the Vancouver Mall/Orchards area and the Salmon Creek area. It includes I-205.
- *SR 503* – A north-south corridor that serves travel between the Orchards area and Battle Ground. It includes SR 503, NE 72nd Avenue, and NE 152nd Avenue.
- *Burton* – An east-west corridor that serves travel between I-205 and the eastern part of the region. It includes NE 18th Street and NE 28th Street.
- *I-5 North* – A north-south corridor that serves travel between the Salmon Creek area and the northern boundary of Clark County.
- *Orchards* – An east-west corridor that serves travel in the Orchards area between I-205 and Ward Road. It includes SR 500 and Fourth Plain Boulevard.
- *St. John’s Road* – A north-south corridor that serves travel between inner Vancouver, north of Downtown, and I-205 south of the Salmon Creek area. It includes St. John’s Road and the BNSF/Chelatchie Prairie Railroad.
- *SR 14 East* – An east-west corridor that serves travel along the north shore of the Columbia River between I-205 and Camas-Washougal. It includes SR 14, Evergreen Highway, and SE 34th Street/Pacific Rim Boulevard.
- *Padden Parkway* – An east-west corridor that serves travel between I-5 in the Hazel Dell area and Ward Road, northeast of the Orchards area. It includes Padden Parkway, NE 76th Street, and NE 78th Street.
- *SR 502* – An east-west corridor that serves travel between I-5 near Ridgefield and Battle Ground. It includes SR 502, NE 179th Street, and NE 199th Street.

Summary of Findings

The following summarizes the findings for each corridor:

High Ranking Corridors

- *I-5 South* – This corridor ranks high on all measures. As a regional travel corridor, it serves a high volume of traffic, has high transit ridership, and has relatively high levels of congestion. It also serves high density areas and significant activity centers such as downtown Vancouver and Salmon Creek, and is identified in local land use plans as a high-capacity transit corridor. In addition, as the approach to one of the two bridges across the Columbia, it connects Clark County to the greater Portland metropolitan region.
- *I-205 South* – This corridor ranks high on all measures but one, transit ridership, which ranks medium. As a regional travel corridor, it serves a high volume of traffic, and has relatively high levels of congestion. It also serves high density areas and significant activity centers, and is identified in local land use plans as a high-capacity transit corridor. In addition, as the approach to one of the two bridges across the Columbia, it connects Clark County to the greater Portland metropolitan region.
- *SR 500 West* – This corridor ranks high on all of the Land Use and Growth measures and the Socio-Economic measures. It serves relatively high-density areas and major activity centers and it is identified in local land use plans as a high-capacity transit corridor. It has high transit ridership, but ranks a medium in vehicular volume and congestion, in part due to planned improvements that add roadway capacity in the corridor. It also serves a relatively low-income area.
- *SR 14 West* - This corridor generally ranks high on the Land Use and Growth measures and the Socio-Economic measures. It also has high transit ridership and a high proportion of trips destined for high density areas. While the P.M. peak hour is particularly congested and travel time is relatively good, the corridor does experience significant queuing problems at the approach to I-5 in the A.M. peak period.

Medium Ranking Corridors

- *164th* – This corridor ranks high on congestion and growth measures. It ranks medium for volume of vehicle trips, transit ridership, density, and activity centers. It does not serve high-density areas, and it is not identified as a high-capacity transit corridor in any plans.
- *Cascade Park* – This corridor ranks medium on all measures. Portions of the Cascade Park corridor experience higher vehicle volumes and congestion than others, particularly the area around Mill Plain and Chkalov near the I-205 interchange. These existing traffic problems are significantly improved by planned projects at the Mill Plain/I-205 interchange and a new interchange to I-205 immediately to the north. This will divert a significant amount of traffic away from the Mill Plain/Chkalov intersection.

- *I-205 North* – This corridor ranks high on congestion and travel time and medium on most other measures. Volumes and densities are average. Transit ridership is low.
- *SR 503* – This corridor ranks high on congestion and travel time measures. It also ranks high on population growth. The overall household and employment densities in this corridor are low and the corridor has a low proportion of trips originating in or destined to high density locations.
- *Burton* – This corridor ranks medium on most measures. It ranks high on congestion measures but it has relatively low vehicle volumes and a low proportion of trips to and from high density locations.

Low Ranking Corridors

- *I-5 North* – As a regional travel corridor serving the Salmon Creek area, WSU, the Clark County Amphitheater, and the fairgrounds, this corridor ranks high on vehicle volumes and activity centers. As a relatively outlying area, it ranks low on population and density measures and on transit ridership.
- *Orchards* – This corridor scores high on the level of congestion measure, but it has relatively low household growth and density. Vehicle volumes and transit ridership is also relatively low.
- *St John's Road* – This corridor serves relatively populated, low-income areas. The areas served by this corridor tend to be relatively low density, with no significant activity centers. There are no significant traffic congestion issues. The corridor does include the BNSF/Chelatchie Prairie railroad right of way as potential alignment for HCT.
- *SR 14 East* – This corridor has moderate vehicle volumes and transit ridership. It serves low-density areas and has no significant congestion issues in 2030. There are planned projects on SR 14 that improve existing congestion issues.
- *Padden Parkway* – This corridor has average vehicle volumes, congestion, and density. Transit ridership is low and the proportion of trips originating from or destined to high density locations is relatively low.
- *SR 502* – This corridor serves a low density area west of Battle Ground. It has relatively low vehicle volumes, low transit ridership, and low congestion levels.

Recommendations

This technical evaluation was presented to the HCT Task Force on March 19, 2007, HCT Steering Committee on April 5, 2007, Regional Transportation Advisory Committee (RTAC) on April 20, 2007, and to the RTC Board of Directors on May 1, 2007.

The final recommendation is that the four highest ranked corridors, with extensions, move forward for development of HCT concepts in the next phase. In addition, the use of the Chelatchie Prairie railroad right-of-way for HCT is to be evaluated. The recommended corridors include:

- I-5 South (extend north to 179th Street)
- I-205 South (extend to Salmon Creek)
- SR-500 (extend to 137th on Fourth Plain and Padden Parkway on SR-503)
- SR-14 West (extend to 164th Avenue)
- Chelatchie Prairie Railroad (Vancouver to Battle Ground)



Rating	Corridor	Travel Demand			Travel Conditions		Land Use and Growth					Environmental and Socio-economic		Total Score		
		Vehicle Trips ¹	Existing Transit Riders ²	Concentration of Trip Ends ³	Corridor Congestion ⁴	Corridor Travel Time ⁵	Plans Support HCT in Corridor ⁶	Total Households and Growth ⁷	Household Density ⁸	Total Employment and Growth ⁹	Employment Density ¹⁰	Activity Centers ¹¹	Environmental Impacts ¹²		Socio-Economic ¹³	
1	I-5 South	●	●	●	●	●	●	●	●	●	●	●	●	NA	●	36
2	I-205 South	●	◐	●	●	●	●	●	●	●	●	●	●	NA	●	35
3	SR-500 West	◐	●	●	◐	○	●	●	●	●	●	●	●	NA	●	32
4	SR-14 West	◐	●	●	○	○	◐	●	●	●	●	●	●	NA	●	30
5	164th	◐	◐	○	●	●	○	●	◐	●	◐	◐	◐	NA	◐	26
6	Cascade Park	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	NA	◐	24
7	I-205 North	◐	○	◐	●	●	◐	○	◐	◐	◐	◐	◐	NA	◐	24
8	SR-503	◐	○	○	●	●	◐	●	○	◐	○	◐	◐	NA	◐	23
9	Burton Rd.	○	◐	○	●	◐	◐	◐	◐	◐	◐	◐	◐	NA	◐	23
10	I-5 North	●	○	◐	◐	◐	◐	○	○	◐	○	◐	◐	NA	◐	22
11	Orchards	○	○	◐	●	◐	◐	○	○	◐	◐	◐	◐	NA	◐	21
12	St. Johns Rd.	○	◐	○	◐	◐	○	●	○	◐	◐	○	◐	NA	●	21
13	SR-14 East	◐	◐	◐	○	○	◐	○	○	◐	○	◐	◐	NA	◐	19
14	Padden Pkwy.	◐	○	○	◐	○	○	○	◐	◐	◐	○	◐	NA	◐	18
15	SR-502	○	○	○	○	◐	◐	○	○	◐	○	○	◐	NA	◐	16

● = High Rating	Total Trips	Daily Riders	Total Trips	Percent > .9 V/C	Percent Difference	Plan Support	HH Base &/or Growth	Future HH Density	Emp. Base & Growth	Future Emp. Density	Activity Centers	Socio-Economic	Scoring
◐ = Medium Rating	● >10,000	● > 2,000	● > 5,000	● > 30%	● > 50% increase	● = Listed > 2 Plans	● = High base/growth	● > 3.0 HH/acre	● = High base/growth	● > 3.0 Emp./acre	● = High rating	● = High proportion	● = 3 pts.
○ = Low Rating	◐ = 5,000-10,000	◐ = 500-2,000	◐ = 2,000-5,000	◐ = 10-30 %	◐ = 30-50 % incr.	◐ = 1-2 Plans	◐ = Med. base/growth	◐ = 2.0-3.0 HH/acre	◐ = Med. base/growth	◐ = 1.5-3.0 Emp./ac.	◐ = Med. rating	◐ = Med. proportion	◐ = 2 pts.
	○ < 5,000	○ < 500	○ < 2,000	○ < 10%	○ < 30% increase	○ = No Plans	○ = Low base/growth	○ < 2.0 HH/acre	○ = Low base/growth	○ < 1.5 Emp./acre	○ = Low rating	○ = Low proportion	○ = 1 pt.

¹ Future vehicle trip ranking based on 2030 PM peak hour 2-way volumes.

² Existing transit riders based on daily boarding and through riders on major bus routes in corridor (2006).

³ Future concentration of trip ends based on total 2030 AM peak hour trips in corridor from high-density origins or to high-density destinations.

⁴ Future congestion is based on the percent of 2030 PM peak hour lane miles in corridor with greater than .90 volume-to-capacity ratio. Ranked as follows: ● > 30%; ◐ = 10% to 30%; and ○ < 10%.

⁵ Future travel time is the percent difference between 2030 PM peak hour auto travel time and free flow travel time on the roadway in the corridor with the largest difference between PM peak hour travel time and free flow travel time in 2030.

⁶ Plan support for HCT is based on a qualitative review of plan and policy documents from Clark County, RTC and local jurisdictions.

⁷ Total Households & Growth is based on the total households in a corridor and the household growth in the corridor between 2004 and 2024.
 ● = 2004 HH base of at least 20,000 plus at least 10,000 HH growth or HH growth of at least 15,000;
 ◐ = 2004 HH base of 10 – 20,000 plus growth of at least 5,000 or a total growth of at least 10,000;
 ○ = 2004 HH base of less than 10,000 or growth of less than 5,000.

⁸ Future household density is based on the number of households per acre in each corridor.

⁹ Total employment & growth is based on the total employment in a corridor and the employment growth in the corridor between 2004 and 2024.
 ● = 2004 emp base of at least 7,000 plus at least 20,000 emp growth;
 ◐ = 2004 emp base of 10 – 20,000 plus growth of at least 5,000 or a total growth of at least 10,000;
 ○ = 2004 emp base of less than 10,000 and growth of less than 5,000.

¹⁰ Future employment density is based on the number of employees per acre in each corridor.

¹¹ Existing and planned activity centers is a qualitative assessment of major centers of commercial, government or other activities located at discrete locations within a corridor.
 The ranking is based on a qualitative judgment of the number, size and importance of activity centers located within each corridor.

¹² Environmental factors are not included at this stage since they do not provide distinctions between the corridors at this broad level. Environmental factors will be considered in the detailed corridor analysis in the next study phase.

¹³ Socio-Economic factors are based on the proportion of low-income, minority, disabled and elderly in each corridor.
 ● = ranked in top 5 in at least 3 of the four categories;
 ◐ = top 5 or middle 5 in at least 3 categories;
 ○ = top 5 or middle 5 in at least 3 categories; no corridors were substantially less than the category.



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STEERING COMMITTEE RECOMMENDATION: INITIAL CORRIDOR NARROWING

