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DRAFT MEMORANDUM #2

DATE: April 5, 2016

TO: Matt Hermen, Clark County

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SUBJECT: Clark County Future Conditions – Draft Project List P14180-006

The purpose of this memorandum is to outline the methodology used to identify the projects needed to address future transportation deficiencies within the unincorporated areas of Clark County for the 2035 planning horizon.

The RTC 2035 Committed and 2035 Capital Facilities Plan travel demand models were used for this analysis. These models have been updated to include the most recent land use assumptions for the rural areas in unincorporated Clark County. The 2035 Committed model displays the transportation network with projects that have been completed, plus projects contained in all of Clark County's jurisdictional Transportation Improvement Programs (TIP) with secured funding through 2021. This network defines a "guaranteed" network. The 2035 Capital Facilities Plan model contains the Committed model network, plus all Clark County jurisdiction's Capital Facilities Plan. This network defines the "guaranteed" network, plus projects that are "likely" to be funded. Comparing the two models allows this analysis to confirm, delete, or add projects to Clark County's Capital Facilities Plan. Please note that the Capital Facilities Plan model contains projects in Clark County's 2014-2033 Capital Facilities Plan. This analysis forecasts needs, per WAC 365-196-415(2)(b), for the 2015-2035 Clark County Comprehensive Growth Management Plan.

METHODOLOGY

This analysis focused on two types of transportation deficiencies: segments (link) and intersections. The analysis did not include network connectivity as a deficiency measure. This measure will be addressed through coordination with the county.

Segment (Link) Analysis

The link deficiency analysis focused on the PM peak hour Committed 2035 RTC model. All links showing volume to capacity (v/c) ratios greater than 0.90 were identified as corridor level deficiencies. Once the deficiencies were identified, the PM Peak hour Capital Facilities Plan 2035 RTC model was analyzed for deficiencies, using the same link level criteria (v/c > 0.9). The link level network improvements between

the Committed model and Capital Facilities Plan model were identified as projects, and reviewed to determine which (if any) deficiency each project addressed. The projects that met an identified link level deficiency were kept in the updated Financially Constrained Project list. Projects included in the Financially Constrained model but not addressing any identified deficiencies were removed from the updated Capital Facilities Plan Project list. All link deficiencies identified in the Capital Facilities Plan model were addressed with new capacity improvement projects. These projects were added to the updated Capital Facilities Plan Project list.

Comparisons between the RTC models with the old land use and the updated land use indicated significant trip loss within the Vancouver city limits, especially on the freeways (I-5 and I-205). As this trip loss was attributed to some outdated land use projects within the Vancouver city limits, the major WSDOT projects on I-5 and I-205 were not compared to modeled deficiencies, but were kept unchanged on the updated Capital Facilities Plan project list. The same approach was used when analyzing projects in urban areas near the Vancouver city limits.

All new segment projects were coded simply as increased link level capacity within the travel models. In addition, the Committed model network was updated to include all the committed projects from the most recent Capital Facilities Plan.

Intersection Analysis

The intersection deficiency analysis also focused on the PM peak hour Committed 2035 RTC model. The analysis focused on unsignalized intersections with forecasted volumes high enough to trigger possible improvements. Unsignalized intersection deficiencies were estimated based on the conflicting major/minor street unsignalized capacities, as outlined in Table 4C-1 of the MUTCD[1]. The conflicting volume analysis helps identify intersections that may fail to meet LOS E standards or may meet signal warrants. As all the intersection analysis was performed at the approach link level (turn volumes were not analyzed). Intersections identified by this process do not necessarily require signalization, and in some cases, other intersection improvements may be sufficient. The potential deficiencies were revised after assuming some traffic disaggregation on the modeled collector roadways, as the Committed 2035 RTC model is a simplified network with aggregated volumes. For example, potential deficiencies that were triggered based on aggregated volumes from local roads not included in the Committed 2035 RTC model were not included as intersection deficiencies since these volumes would likely be spread across multiple intersections. Next, the intersection deficiencies were compared to the corridor level deficiencies and overlapping deficiencies were grouped into one project. All remaining intersection deficiencies identified were addressed with new intersection improvement projects. These projects were added to the updated Capital Facilities Plan Project list.

The committed and financially constrained segment and intersection projects for the Clark County unincorporated areas are shown in the attached figure and tables.

PROJECT IDENTIFICATION

The methodology used to analyze segments and intersections resulted in the *Clark County 2035 Draft Capital Improvements Project List*. This list separates projects into six categories:

[1] Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition, Federal Highway Administration, May 2012.

- Modified Existing CFP Projects
- Newly Identified CFP Projects
- Removed Existing CFP Projects
- Committed CFP Projects
- Existing CFP Projects
- WSDOT Projects

The modified “Existing CFP Projects” category recommend amending one project currently listed in the 2016-2021 Transportation Improvement Program. The “Newly Identified CFP Projects” section recommend adding 26 projects to the 20-year Capital Facilities Plan. The “Removed Existing CFP Projects” section recommends removing a project from the 20-year Capital Facilities Plan because it was not identified as a capacity need. The “Committed CFP Projects” section identifies projects in the existing 2016-2021 Transportation Improvement Program (TIP) that are needed to serve future growth. The “Existing CFP Projects” category identifies projects that are currently included in the 2014-2033 Capital Facilities Plan that are still needed. The “WSDOT Projects” category includes projects using state funds on State facilities.

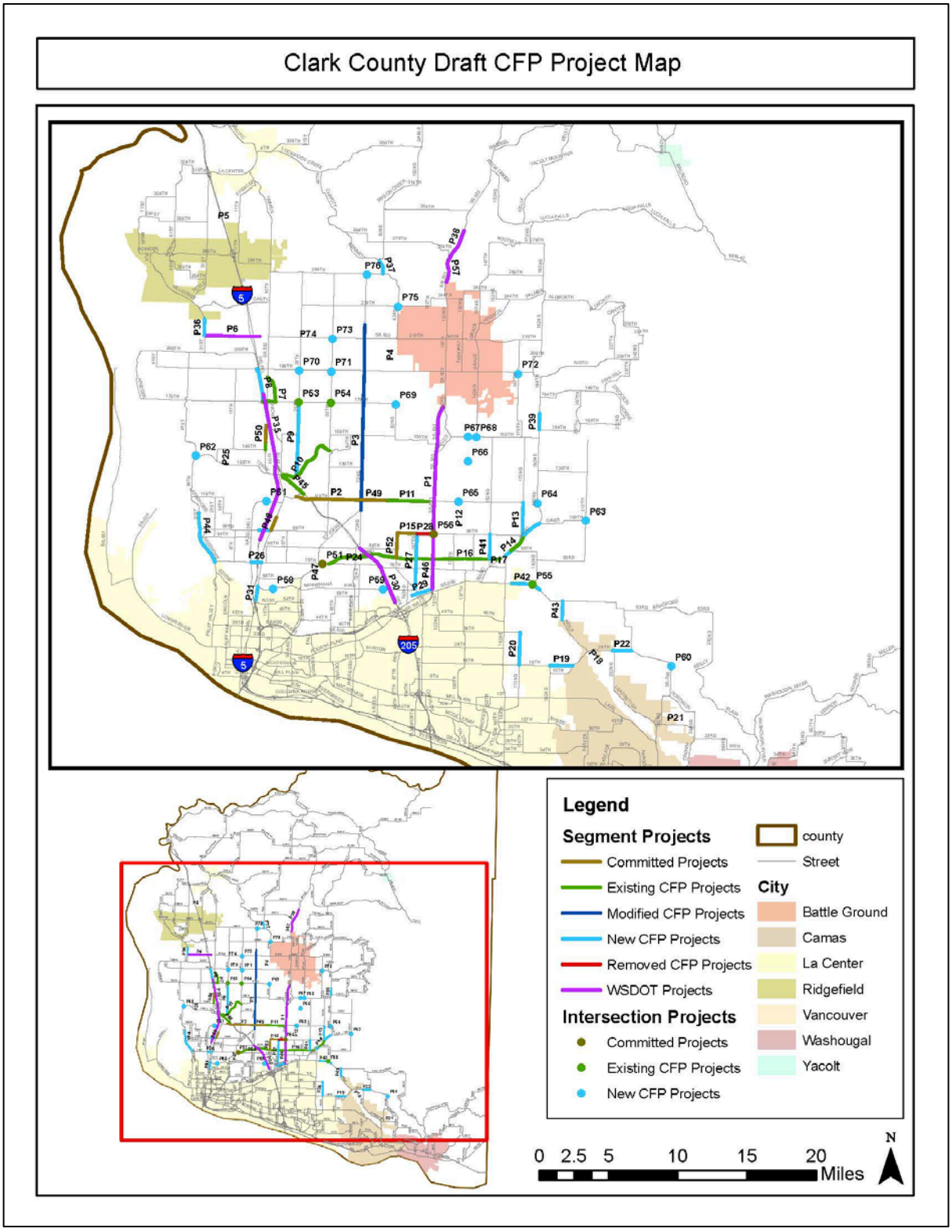

Figure 1. Draft Project List