600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

Meeting: Metro Council
Date: Thursday, September 9, 2010
Time: 2 p.m.
Place: Council Chambers

CALL TO ORDER AND ROLL CALL

1. INTRODUCTIONS

2. CITIZEN COMMUNICATIONS

3. AUDITOR COMMUNICATION

3.1 Payroll and Benefits Program: Greater Coordination Can Improve Processes — **Flynn**

4. Consideration of the Minutes for August 19, 2010

5. ORDINANCES – FIRST READING

5.1 **Ordinance No. 10-1246**, For the Purpose of Amending the Employment and Industrial Areas Map of Title 4 of the Urban Growth Management Functional Plan Upon Application by the City of Portland. — **Liberty**

6. RESOLUTIONS

6.1 **Resolution No. 10-4187**, For the Purpose of Declaring a Vacancy in the Office of Metro Council President. — **Harrington**

7. CHIEF OPERATING OFFICER COMMUNICATION

8. COUNCILOR COMMUNICATION

ADJOURN

Television schedule for September 9, 2010 Metro Council meeting

Clackamas, Multnomah and Washington counties, and Vancouver, WA Channel 11 – Community Access Network *Web site*: www.tvctv.org *Ph*: 503-629-8534 *Date*: 2 p.m. Thursday, Sept. 9 (Live)	**Portland** Channel 30 (CityNet 30) – Portland Community Media *Web site*: www.pcmtv.org *Ph*: 503-288-1515 *Date:* 8:30 p.m. Sunday, Sept. 12 *Date*: 2 p.m. Monday, Sept. 13
Gresham Channel 30 - MCTV *Web site*: www.metroeast.org *Ph*: 503-491-7636 *Date*: 2 p.m. Monday, Sept. 13	**Washington County** Channel 30– TVC – TV *Web site*: www.tvctv.org *Ph*: 503-629-8534 *Date*: 11 p.m. Saturday, Sept. 11 *Date*: 11 p.m. Sunday, Sept. 12 *Date*: 6 a.m. Tuesday, Sept. 14 *Date*: 4 p.m. Wednesday, Sept. 15
Oregon City, Gladstone Channel 28 – Willamette Falls Television *Web site*: http://www.wftvmedia.org/ *Ph*: 503-650-0275 Call or visit web site for program times.	**West Linn** Channel 30 – Willamette Falls Television *Web site*: http://www.wftvmedia.org/ *Ph*: 503-650-0275 Call or visit web site for program times.

PLEASE NOTE: Show times are tentative and in some cases the entire meeting may not be shown due to length. Call or check your community access station web site to confirm program times.

Agenda items may not be considered in the exact order. For questions about the agenda, call the Metro Council Office at 503-797-1540. Public hearings are held on all ordinances second read and on resolutions upon request of the public. Documents for the record must be submitted to the Clerk of the Council to be included in the decision record. Documents can be submitted by e-mail, fax or mail or in person to the Clerk of the Council. For additional information about testifying before the Metro Council please go to the Metro web site www.oregonmetro.gov and click on public comment opportunities. For assistance per the American Disabilities Act (ADA), dial TDD 503-797-1804 or 503-797-1540 (Council Office).

Agenda Item Number 3.1

Payroll and Benefits Program: Greater Coordination Can Improve Processes

Metro Council Meeting
Thursday, Sept. 9, 2010
Metro Council Chambers

METRO

Payroll and Benefit Programs:

Greater coordination can improve processes

July 2010

A Report by the Office of the Auditor

Suzanne Flynn
Metro Auditor

Audit Team: Brian Evans, *Sr. Management Auditor*
Elizabeth Wager, *Sr. Management Auditor*

Knighton Award
for Auditing

Metro Audit Winner of ALGA 2009 Gold Award

The Office of the Auditor has been awarded the Gold Award for Small Shops, which was presented at the 2010 conference of the Association of Local Government Auditors (ALGA) in San Antonio in May. The winning audit was the *Oregon Zoo Capital Construction* audit, completed in November 2009.

Metro Ethics Line

The Metro Ethics Line gives employees and citizens an avenue to report misconduct, waste or misuse of resources in any Metro or Metropolitan Exposition Recreation Commission (MERC) facility or department.

The ethics line is administered by the Metro Auditor's Office. All reports are taken seriously and responded to in a timely manner. The auditor contracts with a hotline vendor, EthicsPoint, to provide and maintain the reporting system. Your report will serve the public interest and assist Metro in meeting high standards of public accountability.

To make a report, choose either of the following methods:

Dial 888-299-5460 (toll free in the U.S. and Canada)
File an online report at www.metroethicsline.org

METRO

SUZANNE FLYNN
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MEMORANDUM

July 28, 2010

To: David Bragdon, Council President
Rod Park, Councilor, District 1
Carlotta Collette, Councilor, District 2
Carl Hosticka, Councilor, District 3
Kathryn Harrington, Councilor, District 4
Rex Burkholder, Councilor, District 5
Robert Liberty, Councilor, District 6

From: Suzanne Flynn, Metro Auditor

Re: Audit of Payroll and Benefits Programs

The attached report covers our audit of Metro's processes to complete employee payroll and manage employee benefits. This audit was included in our FY 2009-10 Audit Schedule upon the request of the Human Resources Director, Mary Rowe.

Effective payroll business processes require coordination across the Human Resources, Finance and Regulatory Services and Information Services departments. Each department has a different role in the process. We found that overall oversight could be strengthened to ensure that the processes were operating as effectively and efficiently as possible. Each department operated somewhat independently to achieve its objective and, at times, increased work in other areas.

Management of the Benefits program also needs improvement. Metro has limited options to change health benefit plans and contain costs. The contract for a benefits broker has not been actively managed and the broker has not been held accountable for the quality of services provided to Metro.

We have discussed our findings and recommendations with Scott Robinson, Deputy COO, Mary Rowe, HR Director and Margo Norton, Director, Finance and Regulatory Services. A formal follow-up to this audit will be scheduled within 1-2 years. We would like to acknowledge and thank the management and staff in the departments who assisted us in completing this audit.

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Summary

Payroll and benefit processes impact every Metro employee, department and program. Effective processes require a well designed and managed system. Several departments at Metro played a role in these processes; however, primary staff are located in the Human Resources Department.

The objective of this audit was to evaluate these business processes to determine if payroll was completed accurately and if employee benefits were managed strategically so that service quality and rising costs could be addressed. While we reviewed payroll and benefit processes specifically, we also assessed coordination across departmental lines. For the most part, payroll information was accurate, however, the process suffered from a lack of coordination. We also found weaknesses in the management of employee benefits.

Differing roles and responsibilities in the HR, Finance and Regulatory Services (FRS) and Information Services (IS) Departments led to different perspectives that required coordination. The Payroll staff operate in a short-term environment needing to issue accurate paychecks twice a month. FRS staff have a more long-term perspective and are responsible for accounting for revenues received and expenses. IS staff manage the software that serves both departments and ensure that it meets the needs and requirements of both HR and FRS. We found increased leadership was needed to ensure these functions do not inadvertently cause problems from their independent actions.

The payroll function is commonly part of an organization's accounting function. This is to ensure there is separation between those charged with maintaining employee information and those who issue payments to employees. At Metro, this was the case until the Payroll program was moved to HR in 2006. Since this reorganization occurred, HR has not successfully maintained this separation in duties. This presents a risk for fraud or abuse.

Metro requires that employees share in the costs of health insurance. The design of the cost-sharing system was different for different employee groups. This decision created difficulty in reconciling benefits back to individual employees and made it too time consuming to complete. As a result, the system lacked transparency and the ability to manage health insurance costs was reduced.

We also found weaknesses in the information that was available to manage benefits service quality and costs. While HR hires a benefit broker to assist them, the contract was not well managed. The broker received payments over an agreed upon cap and the quality and timeliness of information provided was not sufficient to make strategic decisions.

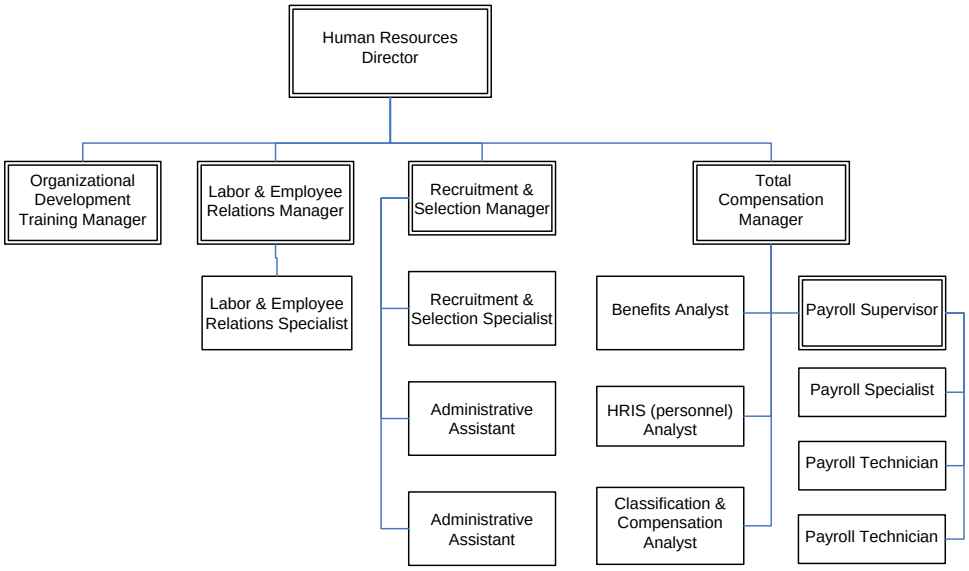
The audit recommends that Metro assign leadership responsibility for the payroll and benefits processes. Once assigned, the process owner should work on clarifying roles and responsibilities to improve the system.

Background

Payroll and benefit processes are an important part of Metro's internal business services. They impact every department, program and employee. In Fiscal Year (FY) 2008-09, Metro's expenditures for salaries and wages, and fringe benefits totaled $70.8 million.

Payroll and benefits functions are part of the Total Compensation Division, located in the Human Resources Department (HR). During the audit, the Total Compensation Division consisted of eight employees, which included the Division Manager, a Benefits Analyst, a Human Resources Information System (HRIS) Analyst, a Classification and Compensation Analyst, a Payroll Supervisor, a Payroll Specialist and two Payroll Technicians. A reorganization of the Department was implemented on July 1, 2010.

Exhibit 1
Human Resources Department Organization
FY 2009-10

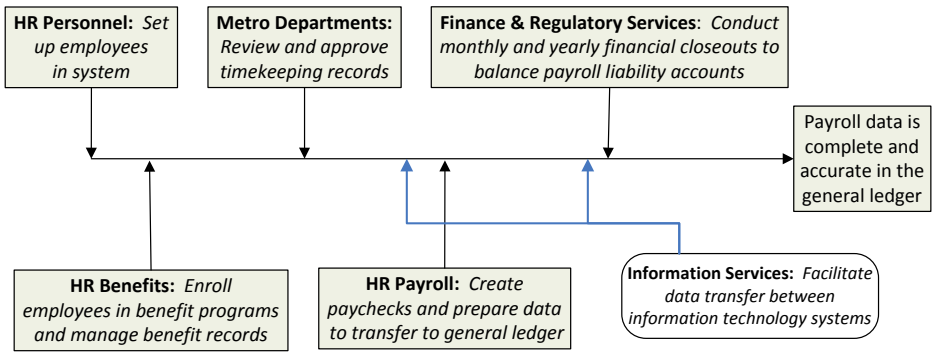


The Payroll section (Payroll) was responsible for providing timely and accurate paychecks in compliance with applicable laws and regulations. Personal Services expenditures for Payroll totaled $321,420 in FY 2008-09, which included the Payroll Supervisor, a Payroll Specialist, two Payroll Technicians and a portion of the Total Compensation Manager's time. Over the last two years, Payroll processed an average of 1,389 paychecks during each semi-monthly pay period, which totaled approximately $4.1 million in gross wages.

The Benefits section (Benefits) managed the employee benefits open enrollment process, staffed the Joint Labor Management Committee on Health Benefits, processed payments to benefit vendors and acted as a liaison between employees and benefit providers. Personal Services expenditures for Benefits totaled $116,769 in FY 2008-09, which included the Benefits Analyst and a portion of the Total Compensation Manager's time.

In addition to the functions in HR, other departments had a role in payroll and benefit processes. Timekeeping review and sign-off was done by department managers and timekeeping administrators. Information Services (IS) implemented software upgrades and provided technical assistance to users of Kronos, the timekeeping system, and PeopleSoft, the accounting system. Finance and Regulatory Services managed the general ledger, where pay information was linked to funds, departments, programs and projects and where payments to benefit vendors were processed and reconciled to the general ledger liability account balances.

Exhibit 2
Payroll Process



Source: Auditor's Office analysis

Scope and methodology

The purpose of the audit was to evaluate Metro's payroll and benefit processes to see if they were operating efficiently and effectively. There were two objectives for the audit:

- Determine if Metro's processes were able to complete payroll accurately; and
- Determine if employee benefits were strategically managed to address service quality and rising costs.

To accomplish our objectives, we interviewed Metro employees, reviewed department documents and benefits contracts, analyzed expenditure data, observed payroll processes and attended Joint Labor Management Committee for Health Benefits meetings. A significant portion of the audit was dedicated to testing payroll and benefit data in PeopleSoft for accuracy and completeness. The scope of our data testing focused on the two-year period FY 2007-08 and FY 2008-09, but also included some data from the current fiscal year, FY 2009-10. In addition, we researched best practices for payroll and benefits administration by reviewing previous audits and industry literature and interviewing representatives from other jurisdictions to learn about their operations. Department management of time and attendance (i.e. employee timekeeping, review and approval processes) was excluded from the scope of the audit.

This audit was included in the FY 2009-10 audit schedule. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Results

The efficiency and effectiveness of the Payroll and **B**enefits programs depend on the inter-related processes performed in three different departments: Human Resources (HR), Information Services (IS), and Finance and Regulatory Services (FRS). While the programs reside in HR, we found that operations across these departments did not have unified or coordinated leadership. As a result, Metro incurred additional costs and did not receive as much value from software systems as it could.

For the most part, payroll processes were able to generate accurate pay information, but reliance on manual processes increased costs and risk. Metro could also improve its strategic management of benefits so as to better address service quality and rising costs. Without strategic management, Metro had limited options to control costs and provide more health benefit plan options.

Strengthen leadership

The effectiveness and efficiency of payroll and benefit administration depends on well designed and managed business processes. These processes have to be coordinated across departments to ensure that decisions made in one area do not have unintended consequences in another. Such coordination requires clarity of purpose, roles and responsibilities and policies and procedures. It also requires on-going monitoring and adjustment of the process as a whole.

Several departments at Metro played a role in payroll and benefits, but none had ownership of these processes as a whole. As a result, the focus was on maintaining the status quo by making piecemeal changes. Processes were set up to work around decisions made in other departments or sections of HR rather than coordinating decision-making up front to optimize the entire process.

The effectiveness and efficiency of payroll and benefit processes depends on accountability, communication and trust among various groups of employees across several departments. We found that these qualities were not always present and identified several areas where improvements could be made to increase coordination and ensure clear roles and responsibilities across the agency.

Different roles and responsibilities require cross-departmental management

Differing roles and responsibilities in each part of the payroll process led to different perspectives that required coordination. We found key decisions were made without coordination or understanding about how they impacted other payroll and benefit processes. Many of these decisions were made in the past by personnel no longer employed by Metro. For example, a change in software coding by one section may hinder another group's work.

Exhibit 3
Roles and Responsibilities for Payroll Processing

	Human Resources (Payroll)	Information Services	Finance & Regulatory Services
Role	Process payroll data and provide documentation for vendor payments	Technical support, writing software code and implementing software upgrades	Account for personal service costs by employee, program and department. Issue payments to vendors
Responsibility	Ensure accurate and timely paychecks	Ensure data can flow through the software systems	Ensure data in the general ledger is accurate and complete
Software	Kronos, PeopleSoft HRMS, Peoplesoft Financials	Kronos, PeopleSoft HRMS, PeopleSoft Financials	PeopleSoft Financials

Source: Auditor's Office analysis

Payroll has a very short time frame to evaluate, learn and implement new processes. Paychecks are issued twice a month and the time staff has to complete payroll can range anywhere from two to six days. As a result, the key to its success is getting things processed on time so that everyone receives compensation for their work.

IS manages the software to connect data between timekeeping, payroll and finance systems, which often involves incremental process changes or upgrading software. As a result, the key to its success is accommodating HR and FRS' requirements and processes with minimal disruptions.

FRS collects and reconciles payroll and benefit data in the general ledger to ensure revenues and expenses are accounted for. Its focus is on monthly and yearly closeout periods and has a longer time horizon for its work than both Payroll and IS. As a result, the key to its success is being able to track data back to its source to ensure it is accurate and complete.

Leadership to integrate each group's role and responsibility would improve the efficiency and effectiveness of the payroll process. Each group brings an important perspective, but without cross-departmental management business processes became uncoordinated. Because they focused on their own role, no one assessed the effectiveness of the process as a whole.

The transfer file used to move data between the payroll system (PeopleSoft HRMS) and the finance system (PeopleSoft Financials) provided a good example of the impact of not having a coordinated payroll process. During tests for accuracy, we found a total discrepancy of $210,000 over two years. Our attempts to determine why this occurred led us from Payroll to FRS to IS, back to Payroll and then back to IS. Each group had a different theory for where and why the discrepancies originated, but nobody could pinpoint why they occurred.

We determined that the discrepancies did not result in overpayments to employees, but the possibility remained that the paycheck totals were overstated to ensure general ledger totals reconciled. While Payroll may have achieved its goal of not over- or underpaying employees, the lack of clarity about the discrepancies was in direct contrast to FRS' need to have accurate account totals in the general ledger.

Segregation of duties could be strengthened

Best practices indicate payroll is most commonly part of an organization's accounting function. This is to ensure there is separation between those charged with maintaining personnel information (HR) and those who issue payments to employees (Payroll). At Metro, these two functions were part of the Total Compensation Division within HR. Previously, the payroll function and benefits function were both part of FRS. Benefits became part of HR in 2000 and Payroll joined HR in 2006.

Management stated that the purpose of having payroll as part of HR was to better integrate processes between personnel, benefits and payroll. However, business processes were not reevaluated. We also found controls over the appropriate segregation of duties were not maintained.

Oversight between HR and IS is needed to make sure segregation of duties is maintained by linking job duties to appropriate security profiles in software systems. Our review of software security settings of HR staff revealed that security profiles were tied to individual employees, not standard profiles based on position responsibilities and associated controls. Designing profiles independently for individual employees created an uncoordinated security solution. The ability to monitor segregation of duties was difficult. Responsibility for maintaining appropriate segregation of duties was not clearly assigned and related recommendations from a previous audit were not fully implemented.

Inappropriate security profiles increased the risk of fraud and abuse, and impacted accountability for changes in the systems. We found many HR employees could change time entries in Kronos, create "award" payments and change the employment status of employees (e.g. terminated, active, rehire). Changes that should only be authorized in one division could be done by employees in other divisions and departments.

Maximize value of investments in software systems

Software systems have the potential to reduce manual processes, increase transparency about how calculations are made and reduce staff time for processing and reconciling data. Metro did not always realize the benefits of its investments in software, which contributed to inefficient processes.

Metro has not assigned primary responsibility to assess the functionality of software systems as a whole. Three software systems are used to process payroll and benefit data, Kronos, PeopleSoft Human Resources Management Systems (HRMS) and PeopleSoft Financials. Each system was set up independently and without regard to system-wide functionality. As a result, additional steps in the process were required to ensure that

data flowed correctly through each system. Better integration of software systems could reduce manual processes, improve consistency, and increase transparency and accountability.

Exhibit 4
Software Systems

Time Keeping	Payroll & Benefit Processing	Balancing Expenses & Revenues
Kronos	PeopleSoft HRMS	PeopleSoft Financials

Having separate timekeeping and payroll processing software required additional staff time in Payroll and IS to transfer and reconcile data between the two systems. Similar inefficiencies occurred when data was transferred between the two PeopleSoft systems. Having separate systems also required IS to support two systems, which created additional work in implementing system upgrades and maintaining consistency between data tables. Metro has one IS staff member who supports Kronos and another who supports PeopleSoft's payroll modules.

Compounding this weakness, employees were managed differently in the timekeeping system, based on uncoordinated decisions of individual managers and not necessarily based on business needs. Some employees were set up with regular schedules in Kronos. For these employees, regular hours are populated for each day worked unless a different time entry such as vacation or sick leave was entered. Other employees did not have a regular schedule set up in Kronos. For these employees, regular hours were not captured in the timekeeping system; only exceptions to regular hours were entered. As a result, there was inconsistent and incomplete data between the timekeeping and payroll processing systems.

Inconsistent management of payroll and benefit data made it very time consuming and difficult to track errors back to their source. Because no one was responsible for the whole process, the focus was on implementing quick fixes or workarounds when errors arose rather than addressing errors at their source.

Challenges in maintaining consistent and accurate records led to over- and underpayments. For example, Metro made retirement contributions for employees who were not eligible to receive employer paid retirement benefits and did not contribute the correct amount for some employees who were eligible. The payroll system was not configured to prevent employees from accruing vacation hours in excess of the 250 hour maximum, as stated in the personnel code. Also, payments to vendors were not made on time, partly due to challenges in obtaining insurance coverage data in the system.

Better utilizing the full functionality of software systems would improve the quality of data available to managers. Lack of data limited managers' ability to analyze information about costs for personal services including trends in employee leave (e.g. sick leave, family medical leave), fringe benefit costs and transparency when errors occur. Standard reporting features in software systems were not used and knowledge about sources of data and report options was centralized in individual positions in Payroll, IS and FRS.

Health benefit cost-sharing lacks transparency

The cost-sharing plan HR used for health insurance reduced transparency about how rates were set and reduced clarity about roles and responsibilities for reconciling payments to providers. When Metro began requiring employees to pay a portion of their medical benefit costs, HR created a formula to allocate costs between employees and departments. The formula set up different rates for various employee groups at Metro (e.g. union represented, non-represented and unclassified). Some employees paid a fixed rate (composite) regardless of the number of people covered. Other employees were required to pay a share of the costs based on the number of people covered by the insurance plan (tiered).

Exhibit 5
Tiered and Composite Rates
Per Pay Period

	Kaiser ($10/$20 co-pay plan)	CIGNA (HMO/PPO plan)
Employee only*	$11.43/$10.70	$24.62/$25.12
Employee & child(ren)*	$18.86/$17.53	$40.35/$41.25
Employee & spouse/partner*	$20.70/$19.24	$44.28/$45.29
Employee & family*^	$26.27/$24.36	$57.38/$56.08
Composite**	$25.77/$16.69	$35.24/$35.24

Source: FY10 Employee Benefits Handbook

* Available only to non-represented, AFSCME 3580 and unclassified employees.
** Available to all other employees.
^ Employee & family coverage includes spouse/domestic partner and child(ren).

Offering both tiered and composite rates facilitated contract negotiations with unions, but it created considerable confusion and additional work to reconcile employee and department contributions with monthly bills from benefit providers. This led to disagreement between FRS and Benefits staff over how to reconcile benefits data to ensure that payments to providers were accurate. Management in FRS stated that their preference was to reconcile benefits payments to individual employees, but agreed to accept HR's decision not to reconcile benefits at that level of detail. FRS stated that the reason they accepted HR's decision was because the total amount not reconciled was not material to Metro's financial statements. As a result, transparency and the ability to manage these costs were reduced.

Additionally, the cost-sharing formula reduced transparency about the causes of a growing balance in the health insurance fund. The formula used by HR to set rates was not always exact, which resulted in Metro collecting more in the health insurance fund than it paid for benefits (fund balance). In recent years, the fund balance grew larger. The primary reason was due to the complexity of forecasting how many employees would be enrolled in a health plan each month. Total enrollment in each insurance plan can change from month to month as employees begin and end service at Metro. To accommodate this, HR set rates conservatively to ensure enough money was collected to cover its costs.

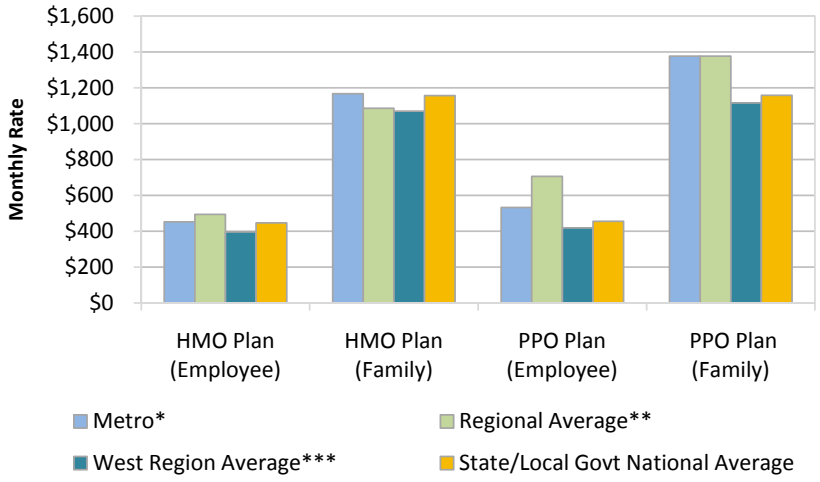
Fund balances can also accrue from employees who opt-out of insurance coverage. Employees who opted-out received a $150 monthly payment, but departments still contributed to the health insurance fund as if the employee

had coverage. This created additional fund balances at the end of the year because opt-out payments were less than the cost of insurance. Another cause was that insurance providers did not offer composite rates for health insurance so HR created its own composite rates. This reduced Metro's ability to match the cost of an employee's plan with contributions from departments and employees.

Better strategy for health benefit plan selection needed

The process used to select health benefit plans was not strategically managed to contain costs and provide options. Metro had very few options to change its health benefit plans from year to year, incurred additional administration fees to maintain the status quo health benefit plans and had higher insurance rates for several plan types and coverage levels compared to regional and national averages.

Exhibit 6
Insurance Rate Comparison



Source: Auditor analysis of "2009 PDX HMO, PPO, Fringe Survey" and Kaiser Family Foundation (2009 Employee Health Benefit Survey)

* Kaiser $10 Plan rate.
** Average of 10-12 local government entities in the region and State of Oregon.
*** Includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Metro's health benefit plans were fairly unique among local governments in the area for several reasons. For example, Metro:

- Did not offer a self-insured health benefit plan and did not participate in a pooled insurance consortium with other local governments;
- Offered both tiered and composite health benefit rates to different employee groups;
- Offered three HMO plans including two from the same provider;
- Enrolled employees disproportionally in one health insurance provider's plans, which limited the pool of providers that will bid on Metro's business; and
- Solicited bids each year and did not have multiple year agreements with providers.

Metro relied on the Joint Labor Management Committee for Health Benefits (JLMC-HB) to evaluate benefit plans and make a recommendation to the Chief Operating Officer and HR Director each year. The focus on yearly plan selection prevented the committee from thinking long-term. There was a lack of training for committee members and the information provided to them was not sufficient to understand the long-term impact of their decisions.

Best practices indicate that a key to successfully managing health benefits costs and service levels is to have either strong benefits staff or a strong consultant to help develop and implement a long-term strategy. HR retained a benefit broker on contract to help evaluate and strategize health benefit options each year. The broker worked with insurance providers, advised HR staff and attended JLMC-HB meetings as a technical expert.

During the audit, we learned that the benefit broker had not been held accountable for the quality of the services provided to Metro. HR staff and JLMC-HB members expressed concern about the quality and timeliness of the information provided by the broker. In addition, HR staff offered very little analysis or strategic guidance to help inform the JLMC-HB. The HR department needs to develop a strategy and assign responsibly among staff members to better position Metro for health benefits selection.

Active management of contracts needed

HR had many contracts and/or agreements with external vendors for employee benefit programs and services. Our review of contracts for employee benefit services, administration and consulting indicated that some contracts were not managed to ensure Metro received the services it paid for. In addition, a lack of contract management increased the cost of benefits and resulted in contracts being overdrawn.

The benefit broker's contract was not actively managed to ensure quality service and manage costs. The contractor's payment structure was based on commissions. The contract set a cap on the amount the broker could receive in a given period of time. However, the broker received commissions directly from insurance providers. This fee structure was unique among the other local governments we contacted.

HR did not monitor the commissions collected by the broker. In total, the broker reported collecting $305,000 in commissions for the period FY 2004-05 to FY 2008-09. Based on our analysis, commissions received by the broker were over the contracted maximum by at least $25,000 during that period. Commissions paid by insurance providers were passed through to Metro via higher insurance rates. This increased the rates Metro pays for medical, dental, vision and life insurance.

The contracts HR had for the Employee Assistance Program (EAP) and Wellness Programs also showed ineffective management. The same contractor was used for both programs but there were two separate contracts, which caused confusion. We found that payments were made to the contractor without being appropriately linked to the right contract. By

the time the error was discovered, about $53,000 in payments for EAP and about $2,500 in payments for the Wellness contract had been made, but not tied to either contract.

Lack of contract management had budgetary impacts. The EAP contract was overdrawn by $16,887 at the time the error was discovered. At the same time, an extension of the EAP contract was approved that doubled the contract value. The extension increased the per year cost for the program by more than 50% from $9,000 per year in the original contract to $14,000 per year.

Policies and procedures need strengthening

Generally, the Payroll and Benefits programs lacked well defined policies and procedures. There was a well developed desk manual for the personnel function in HR, but documented guidance for Payroll and Benefit staff was underdeveloped or nonexistent. No policies or procedures manuals were available for the benefits function. This increased the risk of inconsistent and inaccurate processes and increased confusion about roles and responsibilities throughout the process.

There were two primary tools available to Payroll staff to guide them in their work, single topic "how to" procedures and a payroll checklist to document completion of each step of the semi-monthly payroll process. Both tools were inadequate. In general, the "how to" documents provided valuable information about how various tasks are completed, but did not cover all tasks and were underdeveloped in a number of ways.

The payroll checklist was very long, but did not contain enough information to determine who was responsible for the task, the order tasks needed to be done and the purpose the task was meant to serve. While observing the payroll process, we learned that in practice the checklist often was not used and when it was, steps were skipped and descriptions were not understood. The checklist also contained steps that were not relevant to Metro. The checklist was not reviewed to ensure that steps were completed.

Clear policies and procedures were especially important, given the many manual processes used to calculate payment amounts. Manual processes increased the risk of over- or underpayments and reduced transparency about how calculations were made. In addition, we found that spot-checks or other management tools were not done to ensure the consistency and accuracy of manual calculations.

While it may not be possible to eliminate all manual processes, it is important to implement standard policies and procedures to control risk and provide clear guidance to staff. This was especially true for high risk areas with complex calculations and there was a lack of documentation about how calculations were made. The high risk areas we identified in the audit include retroactive and bonus payments, deductions for union dues and health benefits and edits to the text files and journal entries used to reconcile data as it transferred from Kronos to PeopleSoft HRMS to PeopleSoft Financials.

Stronger controls needed to ensure accuracy

Because of risks outlined above, we tested payroll and benefit data to determine if information was accurate and to detect potential fraud or abuse. We found no indications of fraud or abuse, but controls over data accuracy and consistency need to be strengthened.

These tests provided reasonable assurance that payroll data was accurate and complete, but several risk areas were identified. Risk areas included manual calculations, inconsistent use of earnings codes, security settings to maintain segregation of duties in information technology systems and insufficient clarity about the causes of discrepancies in the general ledger transfer file.

HR's health insurance enrollment records were not consistent with lists obtained from insurance providers. Inconsistencies were found in some names, birthdates, coverage levels and the total number of covered employees and dependents. Maintaining accurate records of employee and dependent health insurance coverage is important. Inaccurate data can prevent eligible employees or their dependents from getting services. Conversely, ineligible employees or dependents may receive coverage when they should not. Because renewal rates are based on the history of utilization of benefits, ineligible participants can drive up usage and affect renewal rates.

During the audit, we also learned that HR did not monitor the eligibility of dependents enrolled in its health insurance plans. Industry data shows that dependents cost an average of $1,900 per year and typically anywhere from 3-8% of covered dependents are not eligible for coverage. If industry data holds for Metro, the savings associated with verifying dependent eligibility could be in the range of $57,000 to $153,000 per year. While verifying that all dependents are eligible might be too costly, there are methods available to focus on smaller groups of covered dependents.

Exhibit 7
Potential Impact of Covering Ineligible Dependents

	Total	3% Ineligible	8% Ineligible
Dependents	1,008	30	81
Annual Cost	$1,915,200	$57,456	$153,216

Source: Auditor's Office analysis based on data from insurance providers and Mercer's "National Survey of Employer-Sponsored Health Plans."

Recommendations

1. To increase the effectiveness and efficiency of the payroll and benefits process:

   a. Metro should assign primary responsibility for the payroll and benefits business processes.

   b. Conduct an evaluation of the three automated systems currently used in order to access full functionality of each.

2. The designated owner of the business process in conjunction with the other two departments should review the business processes for payroll and benefits and determine process improvements that will:

   a. Provide guidance to IS to create profiles within the automated systems that successfully segregate duties.

   b. Allow greater transparency of health care benefit cost calculation and allocation.

   c. Better manage vendor contracts and the quality of services.

   d. Improve the accuracy of data in the automated systems.

   e. Reduce manual processes and calculations that can be managed within the automated systems.

   f. Improve the quality of information available to make health benefit decisions.

3. Once leadership is assigned, the Human Resources, Finance and Regulatory Services, and Information Services Departments should:

   a. Assign roles and responsibilities for each aspect of the process.

   b. Develop clear policies and procedures for each departmental segment.

MANAGEMENT RESPONSE

600 NE Grand Ave.
Portland, OR 97232-2736
www.oregonmetro.gov

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Date: July 26, 2010

To: Suzanne Flynn, Metro Auditor

From: Michael Jordan, Chief Operating Officer
Scott Robinson, Deputy Chief Operating Officer
Mary Rowe, Human Resources Director

Cc: Amy Davis, Payroll Supervisor
Jodi Wilson, Benefits Program Manager

Re: Management Response to Payroll and Benefits Audit

The following represents our response to the audit report which will be issued by your office later this month. As a public agency we recognize the importance of ensuring that public funds are managed responsibly with proper controls in place. We are pleased that you found no evidence of fraud or abuse during the time period studied. Management agrees with the audit recommendations and has already begun to make improvements to the programs. There is new staff in benefits and HR leadership since many of the practices raised in the audit were implemented. Current staff is committed to working to address issues raised. We will continue to take action to properly address the recommendations provided in the audit.

Response to Recommendations in the Auditor's Report

The following summarizes management's response to the specific recommendations noted in the audit report.

Recommendation #1

To increase the effectiveness and efficiency of the payroll and benefits processes:

a. **Metro should assign primary responsibility for the payroll and benefits business processes.**

Response: Mary Rowe, as Human Resources Director, has ultimate responsibility for the business processes and for appropriately separating and segregating duties for clarity and ownership of processes in payroll and benefits. She will work in partnership with Information Services to accomplish this. Amy Davis as Payroll Supervisor is assigned to oversee the business processes for payroll. She has begun a review of processes and initiated improvements. Jodi Wilson, who recently was hired as the Benefits Program Manager is assigned to oversee the business processes for Benefits.

b. **Conduct an evaluation of the three automated systems currently used in order to access full functionality of each.**

Response: As noted on page 11 of the audit report the set up for the Kronos, PeopleSoft Financials and PeopleSoft Human Resource Management Systems predates many of the current users. The plan for addressing this is threefold: 1) currently a post payroll meeting is held following the close of each payroll run. Present at those meetings are Payroll Supervisor, Benefits staff, the HRIS Analyst and IS. 2) In addition we will look to work with IS for a more rigorous review of practices. 3) In preparation of that HR will map out work flow processes for several key areas including hiring of a new employee, and separation of an employee. We will then work with an outside consultant to identify if there are efficiencies that can be gained with our current systems. This process mapping will also be useful information should Metro decide to pursue other systems in the future.

Recommendation #2

The designated owner of the business process in conjunction with the other two departments should review the business processes for payroll and benefits and determine process improvements that will:

a. **Provide guidance to IS to create profiles within the automated systems that successfully segregate duties.**

Response: As noted in a prior response we anticipate undertaking workflow process mapping and as part of that we will review levels of access with separation of duties in mind. In addition we have already undertaken interim steps to change the role of the Payroll Technicians so that they can only create text files instead of both creating and changing the files. Currently only the Payroll Supervisor and Payroll Specialist can change these files. The HRIS Analyst will review action and reason codes and remove those that are not used. In addition current security permissions will be reviewed and modified to exclude choices inappropriate to that position.

b. Allow greater transparency of health care benefit cost calculations and allocation.

Response: The Benefits Manager will work with IS and Finance on this. As you are aware there are two aspects to this, an internal review based on current enrollment is used during the budget process to estimate costs of benefits and actual costs are used post open enrollment. Both aspects are tracked throughout the process to provide transparency.

The other portion of the issue raised in this section of the audit is language regarding how the premiums will be shared by Metro and each employee for specific plans. The language in some places can be made clearer; however, this language is determined through the collective bargaining process and cannot be unilaterally changed by management. One union did transition to new language as a result of the collective bargaining process since the audit was conducted. The language provides clearer direction as to how to share the cost of the health insurance premiums.

c. Better manage vendor contracts and the quality of service.

Response: Duly noted that we can improve oversight of contracts.

d. Improve the accuracy of data in the automated systems.

Response: As part of the benefits process review we will look at how the codes are used and will review the quality and integrity of the data when it is transferred between systems. As an example where data is passed between systems we will look to establish a quality control process such as an annual post open enrollment audit. HR will budget and complete a dependent audit as part of the 2011-12 fiscal cycle.

e. Reduce manual processes and calculations that can be managed within the automated systems.

Response: The full process review cited above will be completed to address this issue. In addition in the short term, Payroll has already begun automating some of the processes that were manual at the time of the audit. Identified by the audit were manual processes for calculations of prorated benefits for part time and job share employees, retroactive checks, and dues for temporary employees in the LIUNA bargaining unit. Automated systems have already been put in place for the retroactive pay increases and most union dues. The calculation for LIUNA 483 temporary employees requires manual calculations, but the request to change the calculation has been documented. Others will be addressed.

f. Improve the quality of information available to make health benefit decisions.

Response: The Benefits Manager and HR Director have discussed way to educate the Joint Labor Management Committee members on not only overall health insurance cost drivers but also the impacts of specific plan design changes. The JLMC reconvenes in September. The agenda for the JLMC is developed in conjunction with the union co-facilitator. Human Resources will request that the meetings at the start of the plan year be used for education of members. Therefore, when presented with plan options in the February/March time frame the Joint Labor Management Committee members will be able to make more fully informed decisions. Ultimately the decision for which plans to offer falls to the Human Resources Director and the Chief Operating Officer. The information will also be available to them, either through participation in the meetings or written follow up.

Recommendation # 3

Once leadership is assigned, the Human Resources, Finance and Regulatory Services, and Information Services Departments should:

a. Assign roles and responsibilities for each aspect of the process.

Response: Noted and will address through work flow process mapping.

b. Develop clear policies and procedures for each departmental segment.

Response: Payroll has been documenting procedures for processes as they are refined and automated. The Benefits Manager is reviewing current benefit and FMLA policies. From there procedures will be written and where feasible, suggestions for revisions in policies will be implemented.

As current processes are reviewed and new ones developed they will be documented so that there is transparency, efficiency, and ease of cross training. In Payroll, the documented checklist is currently a living document and is updated as new steps are identified or changed. In addition, each step indicates who is responsible for completing that task. Areas will also be noted for policy development and establishing appropriate criteria to use for key decisions regarding such practices such as segregation of duties as noted in recommendation 2a.

We appreciate the time you and your staff took in conducting the audit and the insight that it provides for continuing our process improvement efforts.

Michael Jordan 7/27/10

Michael Jordan DATE

Chief Operating Officer

Scott Robinson 7/27/10

Scott Robinson DATE

Deputy Chief Operating Officer

Mary Rowe 7-27-10

Mary Rowe DATE

Human Resources Director

Office of the Metro Auditor
600 NE Grand Avenue
Portland, Oregon 97232
503-797-1892
www.oregonmetro.gov

Agenda Item Number 4.0

Consideration of the Minutes for August 19, 2010
Metro Council Regular Meeting

Metro Council Meeting
Thursday, Sept. 9, 2010
Metro Council Chambers

Agenda Item Number 5.1

Ordinance No. 10-1246, For the Purpose of Amending the employment and Industrial Areas Map of Title 4 of the Urban Growth Management Functional Plan Upon Application by the City of Portland.

First Reading

Metro Council Meeting
Thursday, Sept. 9, 2010
Metro Council Chambers

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE EMPLOYMENT AND INDUSTRIAL AREAS MAP OF TITLE 4 OF THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN UPON APPLICATION BY THE CITY OF PORTLAND

Ordinance No. 10-1246
Introduced by Councilor Robert Liberty

WHEREAS, subsection 3.07.450H of Title 4 of the Urban Growth Management Functional Plan provides for amendment of the Employment and Industrial Areas Map by the Metro Council at the request of a city or a county and sets forth criteria for amendments; and

WHEREAS, the city of Portland applied to amend the map to change the designation of 53.4 acres in northwest Portland from Industrial Area to Employment Area; and

WHEREAS, the Council held a public hearing on the application on September __, 2010; and

WHEREAS, the Council reviewed the city's application and finds that the proposed changes to the Title 4 map meet the criteria in subsection 3.07.450H, as indicated in Exhibit B; now, therefore,

IT IS ORDERED THAT:

1. The Employment and Industrial Areas Map of Title 4 of Metro's Urban Growth Management Functional Plan is hereby amended as shown on Exhibit A, attached to this ordinance.

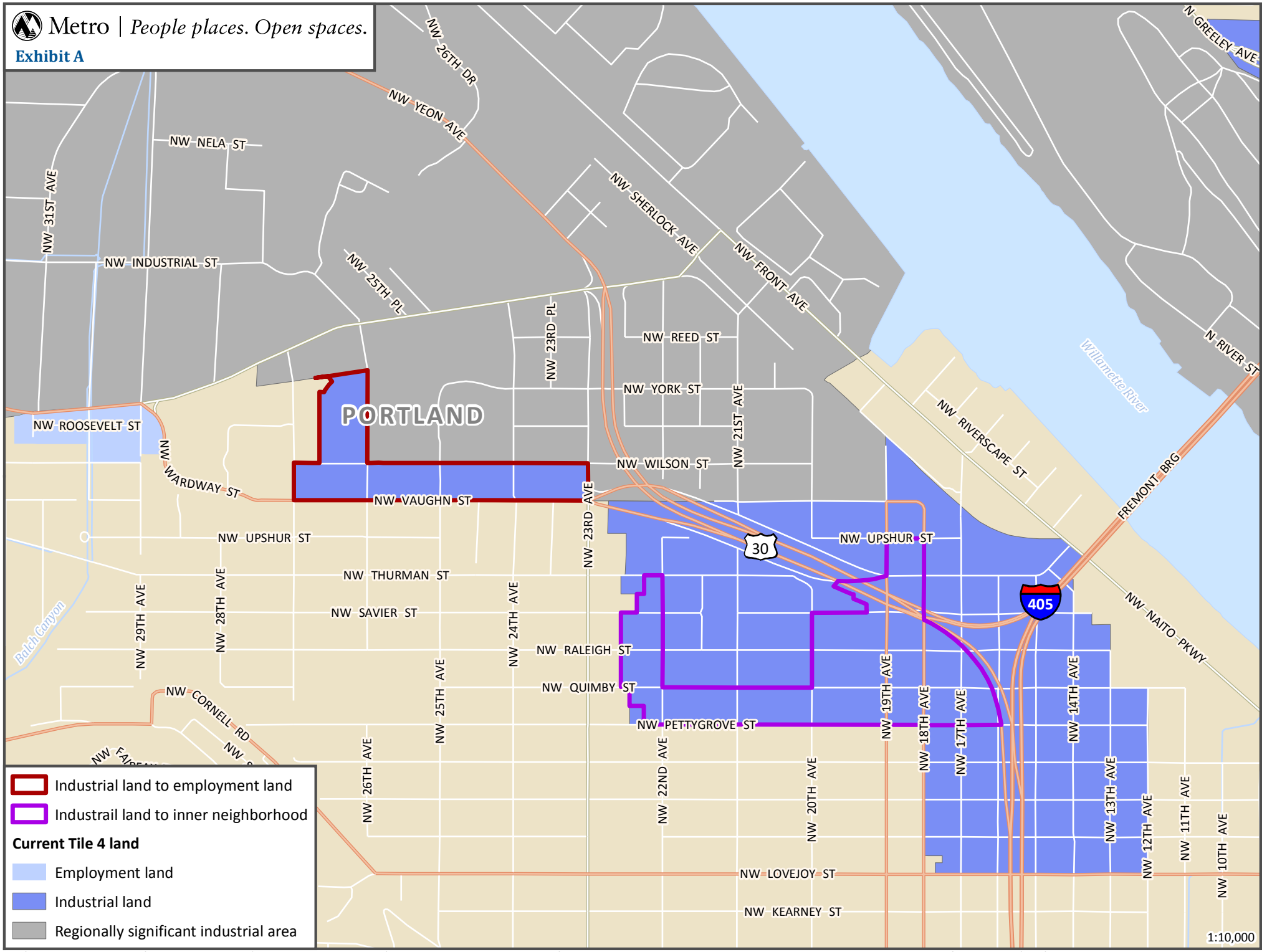
2. The Council adopts the findings of fact and conclusions of law in Exhibit B, incorporated into this ordinance, to explain how the map amendment complies with state and regional laws.

ENTERED this ___ day of September, 2010

_____
Carlotta Collette, Deputy Council President

Approved as to form:

_____
Daniel B. Cooper, Metro Attorney



STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 10-1246, FOR THE PURPOSE OF AMENDING THE EMPLOYMENT AND INDUSTRIAL AREAS MAP OF TITLE 4 OF THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN UPON APPLICATION BY CITY OF PORTLAND

Date: August 30, 2010

Prepared by: Ted Reid
503-797-1768
ted.reid@oregonmetro.gov

BACKGROUND INFORMATION

PETITIONER: City of Portland
APPLICABLE REVIEW CRITERIA: Metro Code section 3.07.450 H

The Regional Framework Plan calls for a strong regional economy. To improve the regional economy, Title 4 of the Urban Growth Management Functional Plan ("Industrial and Other Employment Areas") seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIAs), Industrial and Employment Areas. Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks to protect the capacity and efficiency of the region's transportation system for the movement of goods and services and to encourage the location of other types of employment in Centers, Employment Areas, Corridors, Main Streets and Station Communities. Title 4 is implemented through city and county comprehensive plans and zoning.

The City of Portland requests that the Metro Council amend the Employment and Industrial Areas Map to authorize uses not allowed under Title 4. The proposed map amendment would apply to 53.4 acres in the City of Portland's Northwest District, including two sites totaling 16.9 acres and 36.5 acres. These sites are currently developed. Both sites are designated Industrial on Metro's Employment and Industrial Areas Map. The City of Portland has requested that the 16.9-acre site be designated Employment and that the 36.5-acre site be designated as Inner Neighborhood. The proposed changes to the Title 4 map are shown in Attachment 1. These proposed changes would allow additional commercial retail and professional service uses on these sites. The zoning proposed by the City would also allow residential uses.

On June 17, 2010, the Portland City Council adopted Ordinance 183915, which amended the Portland Comprehensive Plan Map and the city's O fficial Zoning Map to reflect the designations that prompt this request for a Title 4 Map amendment. The City's June 17, 2010 ordinance was not appealed and so has, by default, been acknowledged as compliant with Statewide Planning Goals pursuant to ORS 197.625(1). The City's ordinance appropriately contains a condition making the June 17, 2010 re-designation contingent upon an amendment by the Metro Council to the Title 4 map.

The City of Portland's application for the proposed Title 4 Map amendment is included as Attachment 2.

APPLICABLE REVIEW CRITERIA

The criteria for amendments to the Employment and Industrial Areas Map are contained in Metro Code 3.07.450 H. The criteria (**in bold**), petitioner responses to the criteria *(in italics*), and staff analysis follow. Petitioner references to exhibits pertain to exhibits in the City's application, included as Attachments 2 and 3 to this staff report.

Criterion A: Would not reduce the jobs capacity of the city or county below the number shown on Table 3.07-1 of Title 1 of the Urban Growth Management Functional Plan

Petitioner Response

Both changes are to zones or Comprehensive Plan designations that allow a higher employment density than the current zoning/Comprehensive Plan designations. Therefore this criterion is met.

Metro Staff Analysis

Metro staff concurs with the petitioner's assessment that the proposed zoning and comprehensive plan changes would result in capacity for more jobs. The proposed change to the Title 4 map would not have the effect of reducing the jobs capacity of the City of Portland below the number shown on Table 3.07-1 of Title 1 of the Urban Growth Management Functional Plan.

Metro staff believes that this criterion is met.

Criterion B: Would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on Metro's 2004 Regional Freight System Map below standards in the Regional Transportation Plan ("RTP"), or exceed volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan ("OHP") for state highways, unless mitigating action is taken that will restore performance to RTP and OHP standards within two years after approval of uses

Petitioner Response

Metro's RTP Table 2.4, Regional Mobility Policy designates level of service (LOS) "E" as the standard for off-peak hours performance. Interstate 405 is classified as a Main Freight Roadway and NW Nicolai Street is identified as a Freight Road Connector. In April 2010 traffic analysis was conducted for three intersections: NW Nicolai at NW Wardway St., NW Nicolai at US 30, and NW Vaughn at NW 23rd Ave. The intersections performed at Level of Service C, B and D, respectively, in 2010. The analysis showed that in 2030, all three intersections would continue to perform at the same level of service with the proposed zoning in place. This is above the LOS E standard criterion required by Title 4 (see Exhibit 2, Traffic Analysis for Title 4).

The three intersections studied in April 2010 also met the volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan (OHP) for state highways. The standard listed in Table 7 is .99 volume/capacity (v/c). According to Exhibit 3, Supplement to Traffic Analysis for Title 4, in 2030, the v/c for the three intersections are .56, .76 and .93.

Therefore this criterion is met.

Metro Staff Analysis

The applicable freight routes in the vicinity are NW Nicolai Street and US 30. Metro staff asked the City to review the following intersections for determining compliance with this criterion in Title 4:

- NW Nicolai St. at US 30
- NW Nicolai St. at NW Wardway St. / NW 29th Ave.
- NW Vaughn St. at NW 23rd Ave. / US 30 (I-405) ramps

Off-peak hours are assessed since those are the times when freight transport is most likely to occur in order to avoid delays from commute hour traffic. As part of their petition, the City conducted a traffic analysis to address this criterion, which can be found as Attachment 3 to this staff report. As indicated in a memo included as Attachment 4 to this staff report, Metro's transportation engineer believes that the City has demonstrated to a reasonable extent that the proposed changes would not reduce off-peak performance on either facility below standards contained in the RTP or OHP. As documented in the City's analysis, the proposed land use changes are expected to have a negligible off-peak traffic impact.

Metro staff believes that this criterion is met.

Criterion C: Would not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural and civic services in their market areas

Petitioner Response

Because Area 2 (north of Pettygrove) already has a high concentration of residential and commercial uses, changing the zoning and designation for this area will actually be an expansion of the Central City, reinforcing the role of the Central City as the principal location of retail, cultural, and civic services in the region. Area 1 (directly north of Vaughn) will become a buffer zone between the industrial sanctuary and the Central City. Therefore this criterion is met.

Metro Staff Analysis

Currently, there is no formally-adopted boundary for the Central City. However, as a practical matter, if the proposed Title 4 map amendment is adopted, the area under consideration, especially the area north of NW Pettygrove, would function as part of the Central City. This is because the proposed uses and densities are consistent with development found in the Central City. The proposal presents a unique opportunity to encourage greater levels of urban activity in a central location. Consequently, staff believes that the proposed change to the Title 4 map reinforces, and does not diminish, the intended function of the Central City as the principal location of retail, cultural and civic services in this market area.

Metro staff believes that this criterion is met.

Criterion D: Would not reduce the integrity or viability of a traded sector cluster of industries

Petitioner Response

First, the resulting reduction in available land for industry-related clusters in the Working Harbor (primarily metals manufacturing and distribution) will be offset by expansion of developable land for office-related clusters in the NW portion of the Central City (particularly creative services and software). This shift is consistent with office growth trends in the River District. Area 2 (north of Pettygrove) has a mix of distribution facilities, residential, retail, and office uses.

Second, the changes will reinforce a functional boundary along the Vaughn corridor between the Working Harbor's Regionally Significant Industrial Area to the north and the higher density, mixed use development in the expanding Central City to the south, encouraging long-term investments in both areas. This Vaughn corridor boundary (Area 1) was jointly developed in the Guild's Lake Industrial Sanctuary Plan (2001 and 2003) and Northwest District Plan.

Third, the change to Area 1 (north of Vaughn) will reinforce the metals cluster, because it will establish a transition buffer between the expanding Central City and a major steel manufacturer on the north side of Vaughn (ESCO), and ease expansion of ESCO's headquarters offices. Having headquarters offices in proximity to the manufacturing functions creates significant efficiencies for companies. Additionally, Area 1 (north of Vaughn) will become a transitional buffer to keep housing and most retail uses from conflicts with the industrial uses, and the buffer will help resist market pressures for residential and retail uses pressing northward.

Therefore this criterion is met.

Metro Staff Analysis
Traded-sector industries are those in which member firms sell their goods or services into markets for which national or international competition exists. Firms in these sectors are important to the regional economy since they bring wealth into the region by exporting goods or services. The subject location is home to firms in the metal manufacturing and freight and logistics sectors, both of which are traded sectors. Metro staff believes that the proposed Title 4 map amendment responds to evolving economic conditions in the area and does not, in itself, reduce the integrity or viability of a traded-sector cluster of industries. The petitioner has indicated that the proposed change would provide headquarter office expansion opportunities for at least one traded-sector firm (ESCO) and would buffer remaining industrial uses in the vicinity. Likewise, the proposed changes may attract to the area firms in other traded-sector industries, which may favor higher-density office formats. Metro staff concludes that the proposal does not reduce the integrity or viability of a traded sector cluster of industries.

Metro staff believes that this criterion is met.

Criterion E: Would not create or worsen a significant imbalance between jobs and housing in a regional market area
Petitioner Response
There is currently no significant imbalance. Area 1 (north of Vaughn) is changing from a Comprehensive Plan designation of IS (Industrial Sanctuary) to ME (Mixed Employment). Both designations are designed to foster jobs, and housing is severely limited in both. Although the new designation may result in more jobs in the area, the increase will not be significant enough to cause a significant imbalance in the region.

Area 2 (north of Pettygrove) is changing from the IG1 zone with an IS (Industrial Sanctuary) Comprehensive Plan designation to the EXd zone with an EX (Central Employment) Comprehensive Plan designation. While both the Industrial and Employment zones and designations allow jobs, the EXd zone also allows residential development. Because both uses are allowed—and because it is a relatively small area—the changes will not be enough to cause a significant imbalance in the region.

Therefore this criterion is met.

Metro Staff Analysis
The area under consideration is part of the Central City regional market area. According to the Regional Framework Plan, the Central City is intended to act as a regional employment hub. Currently, the Central City fills this role with a high concentration of employment. In the context of the wider market area, the proposed change would represent a relatively small increase in job capacity. Even with high concentrations of employment in the Central City, staff believes that the jobs-to-housing balance of the wider market area is healthy since the Central City is surrounded by many residential areas that are well-connected with multiple transportation modes. Additionally, the residential uses contemplated for this area would help to balance any new employment.

Metro staff believes that this criterion is met.

Criterion F: If the subject property is designated Regionally Significant Industrial Area, would not remove from that designation land that is especially suitable for industrial use due to the availability of specialized services, such as redundant electrical power or industrial gases, or due to proximity to freight transport facilities, such as trans-shipment facilities.

Petitioner Response
Because the Site is not designated RSIA, this criterion does not apply.

Metro Staff Analysis
No portion of the site is designated as RSIA. Therefore, this criterion does not apply to the proposed Title 4 Map amendment.

Metro staff believes that this criterion is met.

ANALYSIS/INFORMATION

Known Opposition [identify known opposition to the proposed legislation]
There is no known opposition.

Legal Antecedents [identify legislation related to the proposed legislation, including federal, state, or local law and Metro Code, using appropriate resolution or ordinance numbers, ballot measure numbers, etc.]
Statewide Planning Goals 2 (Land Use Planning) and 9 (Economic Development); Metro Code section 3.07.450 (Employment and Industrial Areas Map).

Anticipated Effects [identify what is expected to occur if the legislation is adopted]
Proposed changes to the City's zoning map and comprehensive plan map would become effective, allowing additional commercial uses in these two areas.

Budget Impacts [identify the cost to implement the legislation]
There is no significant budget impact. Implementation would consist of updating the Employment and Industrial Areas Map.

RECOMMENDED ACTION
The petitioner seeks to amend the Title 4 Employment and Industrial Areas Map. Metro Staff believes that the petitioner has provided sufficient evidence to demonstrate that the criteria are satisfied.

Staff recommends, therefore, that the Metro Council approve this ordinance.

ATTACHMENTS
Attachment 1: Map of proposed amendment
Attachment 2: Application from City of Portland requesting Title 4 Map amendment
Attachment 3: Revised traffic analysis from City of Portland (August 6, 2010)
Attachment 4: August 6, 2010 memo from Anthony Butzek to Ted Reid regarding traffic analysis

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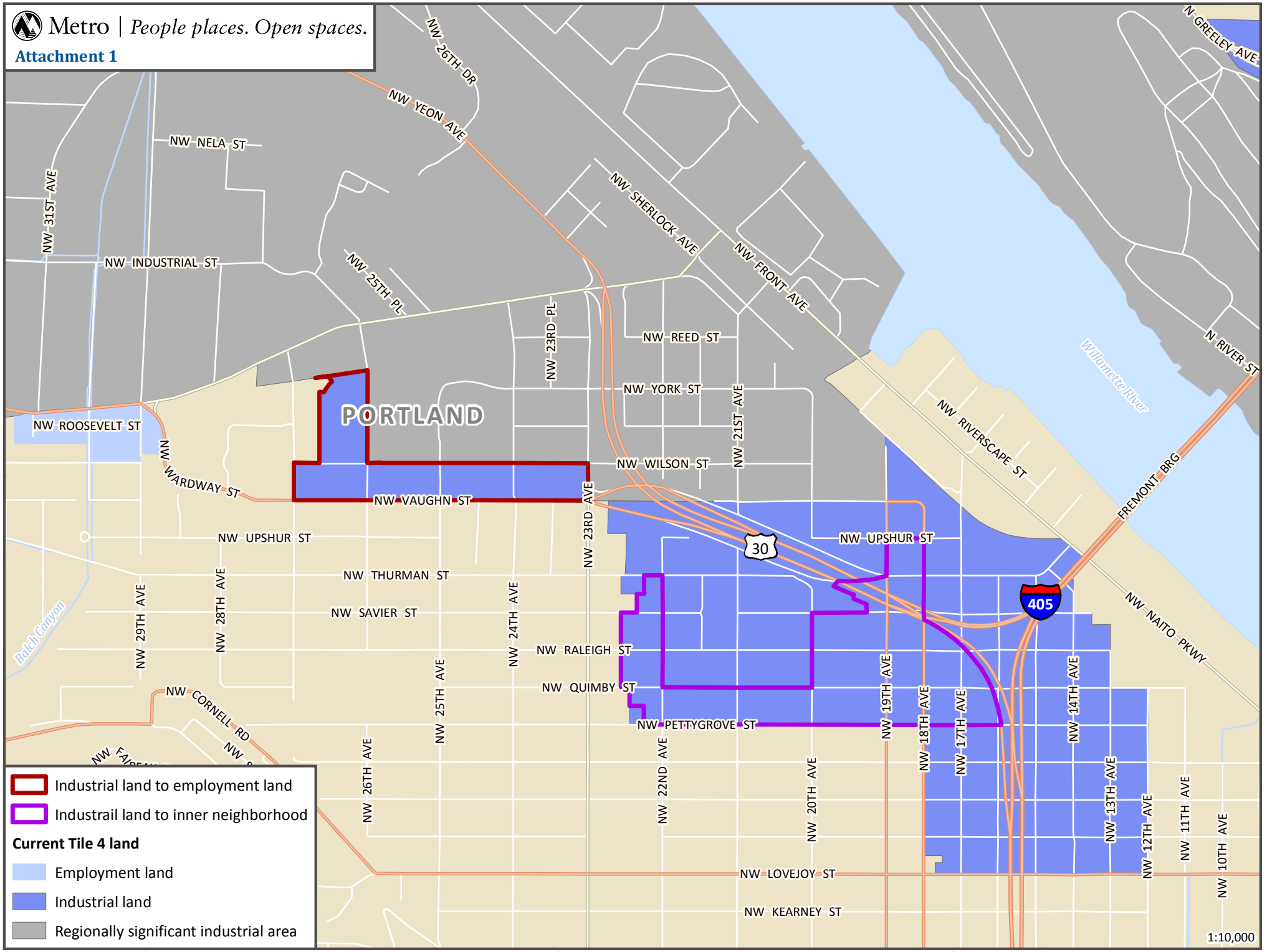
Attachment 1



City of Portland
Application for Amendments to
Metro's Employment and Industrial Areas Map

BACKGROUND INFORMATION

History: The requested changes to Metro's Employment and Industrial Areas Map are based on changes originally adopted by the Portland City Council in 2003 as part of the Northwest District Plan. At that time, Title 4 did not require Metro approval for industrial land map changes.

The Northwest District Plan was appealed to the Land Use Board of Appeals (LUBA). LUBA remanded the plan back to the City for additional information about the impacts of these zone changes on certain transportation facilities. The Portland Bureau of Transportation analyzed the impacts and summarized their findings to specifically address LUBA's remand items.

On June 17, 2010, the Portland City Council re-approved the original Comprehensive Plan and Zone map changes, based on these new findings. The changes approved by City Council will not take effect until Metro has considered our requested amendments to the Title 4 map.

Site Information: We are requesting changes to two areas on Metro's Employment and Industrial Areas Map. These are:

- **Area 1** (north of NW Vaughn between NW 27th and NW 23rd Avenues): 16.9 acres currently designated for industrial will change to employment. This is currently zoned IG1 (General Industrial 1) with a Comprehensive Plan designation of IS (Industrial Sanctuary), and will change to the IG1 zone with a Comprehensive Plan designation of ME (Mixed Employment). This change will allow possible zone map changes, upon further review, to EG (General Employment).
- **Area 2** (north of NW Pettygrove between NW 23rd and NW 16th Avenues): 36.5 acres currently designated for industrial will be removed from the industrial designation. This is currently zoned IG1 with a Comprehensive Plan designation of IS (Industrial Sanctuary) will change to EXd (Central Employment with a Design overlay) zone with a Comprehensive Plan designation of EX.

The sites and the proposed amendments are shown in the attached Exhibit 1.

Proposal Description: The City of Portland requests that Metro's Employment and Industrial Areas Map be amended so the 16.9 acres described as Area 1 above are redesignated from Industrial to Employment. This will allow the area to change from an Industrial Sanctuary (IS) Comprehensive Plan Map designation to Mixed Employment (ME). The Mixed Employment designation would allow potential zone map changes to General Employment. The General Employment zones (EG1 and EG2) permit commercial uses that are more sharply limited or prohibited in Industrial zones, in part due to the requirements of Title 4 ("Industrial and Other Employment Areas") of the Urban Growth Management Functional Plan. The General Employment zones also allow a range of institutional uses that are prohibited in the Industrial zones, and limit or prohibit some of the more intense uses allowed in Industrial zones.

The City of Portland also requests that Metro's Employment and Industrial Areas Map be amended so that the 36.5 acres described as Area 2 above is removed from the industrial designation. This will allow the Comprehensive Plan designation to change from Industrial Sanctuary (IS) to Central Employment (EX), and the zoning for the area to change from General Industrial (IG1) to Central Employment with a design overlay zone (EXd). The EX zone allows a variety of residential and commercial uses that are more sharply limited or prohibited in Industrial zones, in part due to the requirements of Title 4 ("Industrial and Other Employment Areas") of the Urban Growth Management Functional Plan.

Local Government Statement: This Title 4 map amendment is being requested by the City of Portland. On June 17, 2010, the Portland City Council approved Ordinance No. 183915, amending the Comprehensive Plan and Zoning maps described above. At the time of this application, the City's ordinance has not yet been acknowledged as being in compliance with Statewide Planning Goals pursuant to ORS 197.625(1). However, Portland expects such acknowledgement prior to the hearing before the Metro Council. The amendments to the Comprehensive Plan and Zoning maps will not take effect until Metro Council has considered Portland's requested amendments to the Employment and Industrial Areas Map.

APPLICABLE REVIEW CRITERIA

The criteria for an amendment of the Employment and Industrial Areas Map are contained in Metro Code 3.07.450 H. The criteria (**in bold**) are followed by our response (*in italics*).

A. **These changes to zoning and Comprehensive Plan designations will not reduce the jobs capacity of the city below the number shown on Table 3.07-1 of Title 1 of the Urban Growth Management Functional Plan** ***(209,215 jobs)*** *because both changes are to zones or Comprehensive Plan designations that allow a higher employment density than the current zoning/Comprehensive Plan designations. Therefore this criterion is met.*

B. These changes to zoning and Comprehensive Plan designations will not allow uses that reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on Metro's 2004 Regional Freight System Map below standards in the Regional Transportation Plan (RTP), or exceed volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan (OHP) for state highways, unless mitigating action is taken that will restore performance to RTP and OHP standards within two years after approval of uses.

Metro's RTP Table 2.4, Regional Mobility Policy designates LOS "E" as the standard for off-peak hours performance. Interstate 405 is classified as a Main Freight Roadway and NW Nicolai Street is identified as a Freight Road Connector. In April 2010 traffic analysis was conducted for three intersections: NW Nicolai at NW Wardway St., NW Nicolai at US 30, and NW Vaughn at NW 23rd Ave. The intersections performed at Level of Service C, B and D, respectively, in 2010. The analysis showed that in 2030, all three intersections would continue to perform at the same level of service with the proposed zoning in place. This is above the LOS E standard criterion required by Title 4 (see Exhibit 2, Traffic Analysis for Title 4).

The three intersections studied in April 2010 also met the volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan (OHP) for state highways. The standard listed in Table 7 is .99 volume/capacity (v/c). According to Exhibit 3, Supplement to Traffic Analysis for Title 4, in 2030, the v/c for the three intersections are .56, .76 and .93.

Therefore this criterion is met.

C These changes to zoning and Comprehensive Plan designations will not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural, and civic services in their market areas *because Area 2 (north of Pettygrove) already has a high concentration of residential and commercial uses; changing the zoning and designation for this area will actually be an expansion of the Central City, reinforcing the role of the Central City as the principal location of retail, cultural, and civic services in the region. Area 1 (directly north of Vaughn) will become a buffer zone between the industrial sanctuary and the Central City.*

Therefore this criterion is met.

D. These changes to zoning and Comprehensive Plan designations will not reduce the integrity or viability of a traded sector cluster of industries *for three reasons:*

First, the resulting reduction in available land for industry-related clusters in the Working Harbor (primarily metals manufacturing and distribution) will be offset by expansion of developable land for office-related clusters in the NW portion of the Central City (particularly creative services and software). This shift is consistent with office growth trends in the River District. Area 2 (north of Pettygrove) has a mix of distribution facilities, residential, retail, and office uses.

Second, the changes will reinforce a functional boundary along the Vaughn corridor between the Working Harbor's Regionally Significant Industrial Area to the north and the higher density, mixed use development in the expanding Central City to the south, encouraging long-term investments in both areas. This Vaughn corridor boundary (Area 1) was jointly developed in the Guild's Lake Industrial Sanctuary Plan (2001 and 2003) and Northwest District Plan.

Third, the change to Area 1 (north of Vaughn) will reinforce the metals cluster, because it will establish a transition buffer between the expanding Central City and a major steel manufacturer on the north side of Vaughn (ESCO), and ease expansion of ESCO's headquarters offices. Having headquarters offices in proximity to the manufacturing functions creates significant efficiencies for companies. Additionally, Area 1 (north of Vaughn) will become a transitional buffer to keep housing and most retail uses from conflicts with the industrial uses, and the buffer will help resist market pressures for residential and retail uses pressing northward.

Therefore this criterion is met.

E. These changes to zoning and Comprehensive Plan designations will not create or worsen a significant imbalance between jobs and housing in a regional market area.

There is currently no significant imbalance. Area 1 (north of Vaughn) is changing from a Comprehensive Plan designation of IS (Industrial Sanctuary) to ME (Mixed Employment). Both designations are designed to foster jobs, and housing is severely limited in both. Although the new designation may result in more jobs in the area, the increase will not be significant enough to cause a significant imbalance in the region.

Area 2 (north of Pettygrove) is changing from the IG1 zone with an IS (Industrial Sanctuary) Comprehensive Plan designation to the EXd zone with an EX (Central Employment) Comprehensive Plan designation. While both the Industrial and Employment zones and designations allow jobs, the EXd zone also allows residential development. Because both uses

are allowed—and because it is a relatively small area—the changes will not be enough to cause a significant imbalance in the region.

Therefore this criterion is met.

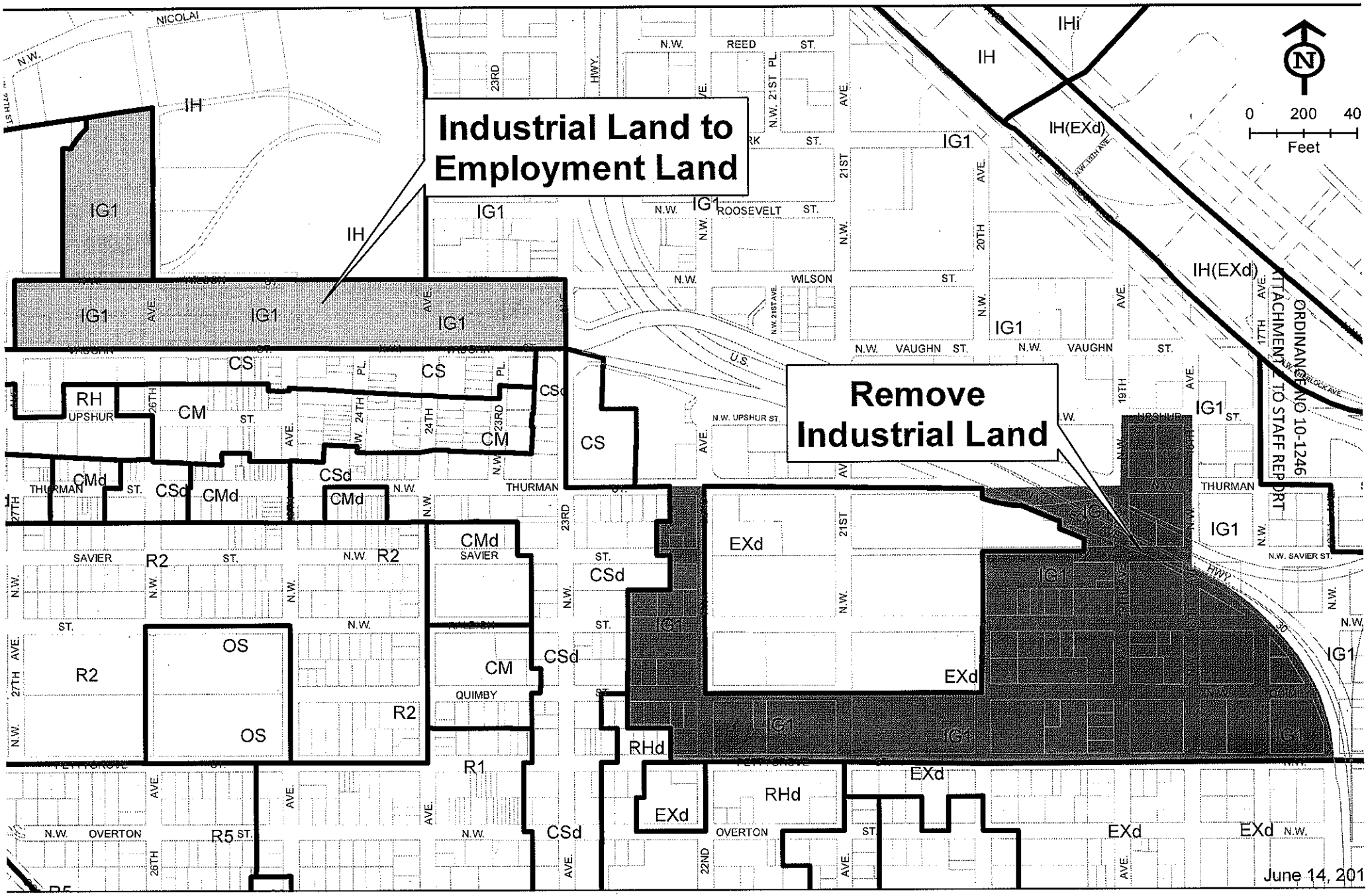
F. These changes to zoning and Comprehensive Plan designations on lands that are designated as Regionally Significant Industrial Areas will not remove from that designation land that is especially suitable for industrial use due to the availability of specialized services, such as redundant electrical power or industrial gases, or due to proximity to freight transport facilities, such as trans-shipment facilities.

Both Area 1 (north of Vaughn) and Area 2 (north of Pettygrove) are areas of industrial land where the zone or Comprehensive Plan designation is changing from Industrial to Employment. Neither area is classified by Metro as Regionally Significant.

Therefore this criterion is not applicable.

Exhibit 1

Requested Title 4 Industrial and Employment Land Map Revisions



ORDINANCE NO 10-1246
ATTACHMENT 2 TO STAFF REPORT

Traffic analysis for Title 4 Map amendment

(Revised August 6, 2010)

By Ning Zhou, City of Portland

Portland Bureau of Transportation (PBOT) finished the Transportation Planning Analysis two years ago in supporting the NW Remand Plan by Portland Bureau of Planning and Sustainability (BPS).

This summary briefs the findings in responding to the requirements set by Metro's Urban Growth Management Function Plan (UGMFP), Title 4. I-405 is a Main Freight Roadway and NW Nicolai St is a Freight Road Connector in RTP (Regional Transportation Plan). Therefore, an analysis to demonstrate their off-peak hour traffic operational conditions is warranted.

The standards set by the Title 4 (3.07.450 C-4) are listed in Table 1. According to Title 4. 3.07.450 C-4, it is sufficient to satisfy the requirement if NW Remand Plan meets either criterion in Table 1.

Table 1. Off-Peak Performance Standards

		Standards
Criteria 1	Metro RTP Standards[1] in LOS	E
Criteria 2	ODOT 1999 OHP[2] in V/C	0.99

1. Metro's RTP Table 2.4, Regional Mobility Policy, LOS = Level of Service
2. ODOT's 1999 Oregon Highway Plan, Table 7. V/C = Volume / Capacity.

Three intersections are analyzed in this summary:

- NW Nicolai St at NW Wardway St / NW 29th Ave.
- NW Nicolai St at US 30
- NW Vaughn St at NW 23rd Ave / I-405 ramps

Findings

The analysis finds that all three intersections are projected to be continually operated at the conditions meet to better than the standards specified in Title 4 during off-peak hour in the plan year of 2030. No improvements are proposed by the off-peak traffic analysis[1].

Table 2. Off-Peak Operational Conditions in LOS

	2010		2030	
	LOS	V/C	LOS	V/C
NW Nicolai St at NW Wardway St	C	0.44	C	0.56
NW Nicolai St at US 30	B	0.51	B	0.76
NW Vaughn St at NW 23rd Ave	D	0.80	D	0.93

[1] Although a re-configuration design at I-405 off-ramp is proposed by the NW Remand Plan to relieve the future PM peak congestion at the intersection of NW Vaughn St and NW 23rd Ave, no improvement is necessary based on the traffic conditions during noon hours.

Methodology

No off-peak TMC (turning movement counts) were collected two years ago when the NW Remand traffic analysis were performed. For this Title-4 analysis, fresh 2010 off-peak TMCs are collected[2] for evaluating the current conditions. City doesn't have off-peak demand model to produce the future off-peak demands for NW Remand traffic analysis. The future off-peak traffic demands are estimated from the projected future PM demands by the formula:

$$V_{2030offpeak} = V_{2010off\text{-}peak} + \Delta V_{pm2030\text{-}pm2007} \times (V_{offpeak} / V_{pmpeak})$$

Where Δ is the model projected PM traffic growth in turning movements from 2007 to 2030.

Synchro software is used in the operational analysis to derive the LOS and V/C data. All three signals are evaluated as the controller of Actuated & Uncoordinated, which are the specifications of current signal timing plans on the site. All other current signal settings are applied in the analysis. Intersection geometric configurations coded in the model are all as same as current street layouts.

The LOS and V/C readings are extracted from Synchro's HCM (Highway Capacity Manual) Signalized Intersection Capacity Analysis Reports.

Traffic Data

Table 3 lists the 2010 TMCs and projected 2030 traffic demands for the three intersections supporting the analysis.

Table 3. Off-Peak Hour Turning Movement Volumes in the Analysis

		eastbound			westbound			northbound			southbound			total
		L	T	R	L	T	R	L	T	R	L	T	R	
Nicolai / US30	2010	85	15	305	40	25	70	150	885	45	45	985	115	2765
	2030	85	15	345	70	25	70	560	1090	85	45	1270	115	3775
Nicolai / Wardway	2010	5	220	225	20	185	20	210	45	15	25	55	5	1030
	2030	10	345	335	20	310	20	255	45	15	25	55	5	1440
Vaughn / 23rd	2010	0	495	85	165/ 305	475	155	100	65	420	120	60	25	2470
	2030	0	555	85	180/ 360	510	340	100	65	455	155	75	25	2905

It should be noted that the 2010 traffic counts at the intersection of NW Vaughn St and NW 23rd Ave / I-405 Ramp are taken at the hours between 10:00AM to 12:00PM, which doesn't cover the whole length of the required 6-hour from 9:00AM to 3:00PM. However,

[2] NW 29th Ave. n/ NW Nicolai St is closed to through traffic due to constructions currently, and it is a important leg of the intersection. Therefore, 24-hour link counts on all three other major approaching legs are collected and the existing TMC is estimated from the time of day factor and two AM / PM TMCs collected in 2007. The time of the day factor is calculated at approach level, and the formula of (am+pm)/2 is used to distribute the turn movements.

the engineering analysis indicated that the data is sufficient in supporting the planning process:

- It is determined that the peak volume data used in the analysis is consistent with the real peak volume of the required 6-hour time span.
- It is reasonable to state that the turning movement pattern deriving from the data is similar to the traffic patterns of the real peak hour of the 6-hour period.
- It has been demonstrated that the intersection could be operated at the acceptable condition set by Title 4 with additional 5% of the total demands over the projected 2030 volumes.
- It is modeled that the proposed zoning change in NW Remand Plan would only add about 12 vehicles to this intersection during the noon peak hour, which accounts for only about 0.2% of its capacity, and should have little impact to its operation.

Appendix:

a. HCM (highway Capacity Manual) Reports from Synchro for the three intersections, 2010 and 2030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b. 2010 off-peak TMCs on the two intersections


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c. 24-hour counts on legs of the intersection of Nicolai St at NW Wardway St.


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d. Detail engineering analysis in supporting the use of TMC at the intersection of NW Vaughn St and NW 23rd Ave.


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Supporting Analysis

for the intersection of NW Vaughn St and NW 23rd Ave.
(draft, 8/6/2010)
Ning Zhou, PE., PTOE

For conducting the Title 4 traffic analysis for NW Remand study, City has collected TMC (Turning Movement Count) at the intersection of NW Vaughn St and NW 23rd Ave. between 10:00AM to 12:00PM in April, 2010.

Apparently the TMC didn't cover the whole length of the required 6-hour span from 9:00AM to 3:00PM. Since Broadway Bridge and North Pearl area are currently under construction and it will not re-open to traffic until September, it is impossible to simply re-collect the TMC at the intersection to satisfy the Title 4 requirement.

However, the detailed traffic engineering studies indicate that the current counts are sufficient in supporting the planning application, and should be good for the Title 4 requirement. Followings are the findings.

a. It is determined that the traffic at the site is relatively constant from 9:00AM – 3:00PM. City doesn't have the 6-hour turning count for this intersection, but the link 24-hour count from adjacent street (NW Vaughn St e/ NW 25th St) shows that the traffic volumes used in the analysis (11:00-12:00) is only 2% off the middle-day real peak. There is no noticeable trend that the traffic is tend to increase with the time moves before it reaches PM rush hours, and the 2% difference is well within the hourly fluctuation range of the normal hourly traffic.

Table 1. Middle day traffic counts on NW Vaughn St e/ 25th Ave (2006)

	Volumes	Peak	% of peak
9 - 10AM	1,031		
10 – 11AM	950		
11AM – 12PM	1,103		98%
12 – 1PM	1,076		
1 – 2PM	1,129	Peak	
2 – 3PM	1,106		

*The peak hour volume might be varied slightly if use 15-minute interval method.

b. It is reasonable to assume the analyzed peak hour traffic hold the same traffic pattern as the real peak hour of the 6-hour middle-day span. Without the 6-hour turning movement count, it is hard to declare that for sure. But by the same token, there is no reason to suspect the traffic pattern at the intersection during the middle day hours would significantly shift away from its 11:00-12:00 traffic. This intersection connects neighborhood collectors with a freeway ramp, its traffic pattern during the whole middle day hours should be relatively stabled. Table 2 lists the traffic patterns of AM, PM and off peak hours of this intersection. No noticeable traffic pattern changes between the counted 2 middle day hours either, see Table 3.

Table 2. The distribution pattern of approach traffic at the intersection

	EB %	WB %	NB %	SB %
AM Peak	25	54	17	4
Off Peak	23	45	24	8
PM Peak	25	38	28	8

Table 3. Traffic pattern comparison between the two surveyed middle-day hours at the intersection

	EB			WB				NB			SB		
	L	T	R	U	L	T	R	L	T	R	L	T	R
10:00-11:00		19%	3%	8%	13%	20%	6%	3%	3%	17%	5%	2%	1%
11:00-12:00		20%	3%	7%	12%	19%	6%	4%	3%	17%	5%	2%	1%

c. The Title 4's standards for approval are LOS E or V/C of 0.99 for this intersection. The analysis states that the intersection would be operated at LOS D or V/C = 0.93 in planning year of 2030, which is much lower than the approval criteria. The volumes used in 2030 analysis equal to about 18% growth from today in terms of total approach volumes. The test model run demonstrates that the intersection would be operated at an accepted condition even with another 5% additional traffic growth to every movement (LOS D and V/C 0.94). It is safe to assume that the 5% additional traffic will compensate well the impacts or doubts resulting from the imperfect traffic counts.

d. It is estimated the proposed land use from NW Remand would add about 12 vehicles to this intersection (all 4-approaches) during 2030 noon peak hour. The capacity of the intersection is modeled at 5500+ based on current street layout and signal timing plan. The 12 additional vehicles represent only 0.2% of its total approach capacity. Therefore, the additional traffic from the proposed NW Remand project would have little to none effect to the operation condition of the intersection in projected 2030 noon peak hour, in either terms of total approach volumes or in individual movement traffic.

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0			4.0		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	0.99			0.88		
Flt Protected	0.95	1.00	1.00			0.95	1.00			0.99		
Satd. Flow (prot)	1770	1863	1583			1770	1835			1634		
Flt Permitted	0.55	1.00	1.00			0.95	1.00			0.96		
Satd. Flow (perm)	1024	1863	1583			1770	1835			1580		
Volume (vph)	5	220	225	5	5	20	185	20	3	0	5	13
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	239	245	5	5	22	201	22	3	0	5	14
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	12	0	0
Lane Group Flow (vph)	5	239	250	0	0	27	220	0	0	10	0	0
Turn Type	pm+pt		custom		Prot	Prot			Perm			
Protected Phases	1	3 6	6 7		5	5	2 3			4		
Permitted Phases	3 6								4			
Actuated Green, G (s)	35.9	34.3	36.6			2.0	32.5			8.5		
Effective Green, g (s)	36.1	33.3	38.4			1.0	31.5			8.7		
Actuated g/C Ratio	0.49	0.45	0.52			0.01	0.43			0.12		
Clearance Time (s)	5.2					3.0				4.2		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	531	844	827			24	786			187		
v/s Ratio Prot	c0.00	c0.13	c0.16			c0.02	0.12					
v/s Ratio Perm	0.00									0.01		
v/c Ratio	0.01	0.28	0.30			1.12	0.28			0.05		
Uniform Delay, d1	9.6	12.6	9.9			36.2	13.6			28.7		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	0.0	0.2	0.2			225.0	0.2			0.1		
Delay (s)	9.6	12.8	10.2			261.2	13.8			28.9		
Level of Service	A	B	B			F	B			C		
Approach Delay (s)		11.4					40.5			28.9		
Approach LOS		B					D			C		

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	NWL	NWR	NWR2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0	4.0
Lane Util. Factor			1.00		1.00	1.00	1.00
Frt			0.98		1.00	0.85	0.85
Flt Protected			0.96		0.95	1.00	1.00
Satd. Flow (prot)			1758		1770	1583	1583
Flt Permitted			0.74		0.95	1.00	1.00
Satd. Flow (perm)			1351		1770	1583	1583
Volume (vph)	25	55	1	10	210	45	15
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	60	1	11	228	49	16
RTOR Reduction (vph)	0	0	5	0	0	0	13
Lane Group Flow (vph)	0	0	94	0	228	49	3
Turn Type	Perm	Perm				Prot	Prot
Protected Phases			4		7	7	7
Permitted Phases	4	4					
Actuated Green, G (s)			8.5		13.3	13.3	13.3
Effective Green, g (s)			8.7		14.5	14.5	14.5
Actuated g/C Ratio			0.12		0.20	0.20	0.20
Clearance Time (s)			4.2		5.2	5.2	5.2
Vehicle Extension (s)			3.0		3.0	3.0	3.0
Lane Grp Cap (vph)			160		349	312	312
v/s Ratio Prot					c0.13	0.03	0.00
v/s Ratio Perm			c0.07				
v/c Ratio			0.59		0.65	0.16	0.01
Uniform Delay, d1			30.7		27.2	24.4	23.7
Progression Factor			1.00		1.00	1.00	1.00
Incremental Delay, d2			5.4		4.3	0.2	0.0
Delay (s)			36.1		31.5	24.7	23.7
Level of Service			D		C	C	C
Approach Delay (s)			36.1		30.0		
Approach LOS			D		C		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		0.97	0.91		1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		0.99	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.95		0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1777	1770		1682		3433	5042		1770	3539	1549
Flt Permitted		0.60	1.00		0.88		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1102	1770		1495		3433	5042		1770	3539	1549
Volume (vph)	85	15	305	40	25	70	150	885	45	45	985	115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	16	321	42	26	74	158	932	47	47	1037	121
RTOR Reduction (vph)	0	0	0	0	48	0	0	5	0	0	0	57
Lane Group Flow (vph)	0	105	321	0	94	0	158	974	0	47	1037	64
Confl. Peds. (#/hr)	4					4	8		4	4		8
Turn Type	Perm		custom	Perm			Prot			Prot		custom
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		5 6 8	4								6
Actuated Green, G (s)		12.2	81.2		12.2		14.4	40.8		11.9	39.4	40.8
Effective Green, g (s)		13.8	81.2		13.8		14.5	42.8		12.6	40.9	42.8
Actuated g/C Ratio		0.17	1.00		0.17		0.18	0.53		0.16	0.50	0.53
Clearance Time (s)		5.6			5.6		4.1	6.0		4.7	5.5	6.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		187	1770		254		613	2658		275	1783	816
v/s Ratio Prot							c0.05	0.19		0.03	c0.29	
v/s Ratio Perm		c0.10	c0.18		0.06							0.04
v/c Ratio		0.56	0.18		0.37		0.26	0.37		0.17	0.58	0.08
Uniform Delay, d1		30.9	0.0		29.8		28.7	11.3		29.8	14.1	9.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.8	0.0		0.9		1.0	0.4		1.3	1.4	0.2
Delay (s)		34.7	0.0		30.8		29.7	11.6		31.1	15.5	9.7
Level of Service		C	A		C		C	B		C	B	A
Approach Delay (s)		8.6			30.8			14.2			15.6	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

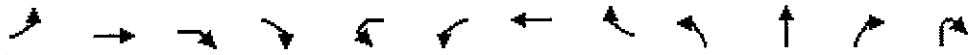
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95			1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.98			1.00	1.00	0.85	1.00	0.89	0.85	1.00	0.96
Flt Protected		1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)		3430			1770	3539	1583	1770	1570	1504	1770	1746
Flt Permitted		1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3430			1770	3539	1583	1770	1570	1504	1770	1746
Volume (vph)	0	495	85	165	305	475	155	100	65	420	120	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	521	89	174	321	500	163	105	68	442	126	63
RTOR Reduction (vph)	0	12	0	0	0	0	69	0	0	0	0	13
Lane Group Flow (vph)	0	598	0	0	495	500	94	105	276	234	126	76
Confl. Peds. (#/hr)	1		16		16		1	40				
Turn Type				Prot	Prot		Prot	Prot		Prot	Prot	
Protected Phases		2		1	1	6	6	3	8	8	7	4
Permitted Phases												
Actuated Green, G (s)		20.6			29.5	54.1	54.1	8.2	20.0	20.0	7.7	19.5
Effective Green, g (s)		20.6			29.5	54.1	54.1	8.2	20.0	20.0	7.7	19.5
Actuated g/C Ratio		0.22			0.31	0.58	0.58	0.09	0.21	0.21	0.08	0.21
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		753			557	2041	913	155	335	321	145	363
v/s Ratio Prot		c0.17			c0.28	0.14	0.06	0.06	c0.18	0.16	c0.07	0.04
v/s Ratio Perm												
v/c Ratio		0.79			0.89	0.24	0.10	0.68	0.82	0.73	0.87	0.21
Uniform Delay, d1		34.6			30.6	9.8	8.9	41.5	35.2	34.4	42.6	30.8
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		5.8			15.8	0.1	0.0	11.1	15.0	8.0	38.6	0.3
Delay (s)		40.4			46.4	9.8	9.0	52.7	50.3	42.4	81.2	31.0
Level of Service		D			D	A	A	D	D	D	F	C
Approach Delay (s)		40.4				25.4			47.7			60.4
Approach LOS		D				C			D			E

Intersection Summary				
HCM Average Control Delay	37.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	80.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	25
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	26
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	40
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0			4.0		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	0.99			0.88		
Flt Protected	0.95	1.00	1.00			0.95	1.00			0.99		
Satd. Flow (prot)	1770	1863	1583			1770	1846			1634		
Flt Permitted	0.47	1.00	1.00			0.95	1.00			0.96		
Satd. Flow (perm)	866	1863	1583			1770	1846			1578		
Volume (vph)	10	345	335	5	5	20	310	20	3	0	5	13
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	375	364	5	5	22	337	22	3	0	5	14
RTOR Reduction (vph)	0	0	1	0	0	0	2	0	0	12	0	0
Lane Group Flow (vph)	11	375	368	0	0	27	357	0	0	10	0	0
Turn Type	pm+pt		custom		Prot	Prot			Perm			
Protected Phases	1	3 6	6 7		5	5	2 3			4		
Permitted Phases	3 6								4			
Actuated Green, G (s)	32.9	32.4	34.2			2.0	33.9			8.6		
Effective Green, g (s)	31.4	31.4	36.0			1.0	32.9			8.8		
Actuated g/C Ratio	0.43	0.43	0.49			0.01	0.45			0.12		
Clearance Time (s)	3.0					3.0				4.2		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	368	793	772			24	823			188		
v/s Ratio Prot		c0.20	0.23			c0.02	0.19					
v/s Ratio Perm	0.01									0.01		
v/c Ratio	0.03	0.47	0.48			1.12	0.43			0.05		
Uniform Delay, d1	12.3	15.2	12.6			36.4	14.0			28.8		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	0.0	0.4	0.5			225.0	0.4			0.1		
Delay (s)	12.4	15.7	13.1			261.4	14.4			28.9		
Level of Service	B	B	B			F	B			C		
Approach Delay (s)		14.4					31.7			28.9		
Approach LOS		B					C			C		

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	NWL	NWR	NWR2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0	4.0
Lane Util. Factor			1.00		1.00	1.00	1.00
Frt			0.98		1.00	0.85	0.85
Flt Protected			0.96		0.95	1.00	1.00
Satd. Flow (prot)			1758		1770	1583	1583
Flt Permitted			0.74		0.95	1.00	1.00
Satd. Flow (perm)			1351		1770	1583	1583
Volume (vph)	25	55	1	10	255	45	15
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	60	1	11	277	49	16
RTOR Reduction (vph)	0	0	5	0	0	0	12
Lane Group Flow (vph)	0	0	94	0	277	49	4
Turn Type	Perm	Perm				Prot	Prot
Protected Phases			4		7	7	7
Permitted Phases	4	4					
Actuated Green, G (s)			8.6		15.4	15.4	15.4
Effective Green, g (s)			8.8		16.6	16.6	16.6
Actuated g/C Ratio			0.12		0.22	0.22	0.22
Clearance Time (s)			4.2		5.2	5.2	5.2
Vehicle Extension (s)			3.0		3.0	3.0	3.0
Lane Grp Cap (vph)			161		398	356	356
v/s Ratio Prot					c0.16	0.03	0.00
v/s Ratio Perm			c0.07				
v/c Ratio			0.58		0.70	0.14	0.01
Uniform Delay, d1			30.8		26.3	22.9	22.2
Progression Factor			1.00		1.00	1.00	1.00
Incremental Delay, d2			5.3		5.2	0.2	0.0
Delay (s)			36.0		31.5	23.1	22.2
Level of Service			D		C	C	C
Approach Delay (s)			36.0		29.9		
Approach LOS			D		C		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		0.97	0.91		1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.95		0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1770		1698		3433	5020		1770	3539	1548
Flt Permitted		0.56	1.00		0.78		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1051	1770		1351		3433	5020		1770	3539	1548
Volume (vph)	85	15	345	70	25	70	560	1090	85	45	1270	115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	16	363	74	26	74	589	1147	89	47	1337	121
RTOR Reduction (vph)	0	0	0	0	30	0	0	9	0	0	0	45
Lane Group Flow (vph)	0	105	363	0	144	0	589	1227	0	47	1337	76
Confl. Peds. (#/hr)	4					4	8		4	4		8
Turn Type	Perm		custom	Perm			Prot			Prot		custom
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		5 6 8	4								6
Actuated Green, G (s)		12.3	88.0		12.3		19.9	53.5		5.9	40.6	53.5
Effective Green, g (s)		13.9	88.0		13.9		20.0	55.5		6.6	42.1	55.5
Actuated g/C Ratio		0.16	1.00		0.16		0.23	0.63		0.08	0.48	0.63
Clearance Time (s)		5.6			5.6		4.1	6.0		4.7	5.5	6.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		166	1770		213		780	3166		133	1693	976
v/s Ratio Prot							c0.17	0.24		0.03	c0.38	
v/s Ratio Perm		0.10	0.21		c0.11							0.05
v/c Ratio		0.63	0.21		0.67		0.76	0.39		0.35	0.79	0.08
Uniform Delay, d1		34.7	0.0		34.9		31.7	7.9		38.7	19.2	6.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		7.6	0.1		8.2		6.7	0.4		7.2	3.8	0.2
Delay (s)		42.3	0.1		43.1		38.4	8.3		45.9	23.1	6.5
Level of Service		D	A		D		D	A		D	C	A
Approach Delay (s)		9.5			43.1			18.0			22.5	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95			1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.98			1.00	1.00	0.85	1.00	0.88	0.85	1.00	0.96
Flt Protected		1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)		3437			1770	3539	1583	1770	1565	1504	1770	1760
Flt Permitted		1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3437			1770	3539	1583	1770	1565	1504	1770	1760
Volume (vph)	0	555	85	180	360	510	340	100	65	455	155	75
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	584	89	189	379	537	358	105	68	479	163	79
RTOR Reduction (vph)	0	11	0	0	0	0	151	0	0	0	0	10
Lane Group Flow (vph)	0	662	0	0	568	537	207	105	296	251	163	95
Confl. Peds. (#/hr)	1		16		16		1	40				
Turn Type				Prot	Prot		Prot	Prot		Prot	Prot	
Protected Phases		2		1	1	6	6	3	8	8	7	4
Permitted Phases												
Actuated Green, G (s)		23.0			35.7	62.7	62.7	9.3	22.5	22.5	11.0	24.2
Effective Green, g (s)		23.0			35.7	62.7	62.7	9.3	22.5	22.5	11.0	24.2
Actuated g/C Ratio		0.21			0.33	0.58	0.58	0.09	0.21	0.21	0.10	0.22
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		731			584	2051	917	152	325	313	180	394
v/s Ratio Prot		c0.19			c0.32	0.15	0.13	0.06	c0.19	0.17	c0.09	0.05
v/s Ratio Perm												
v/c Ratio		0.91			0.97	0.26	0.23	0.69	0.91	0.80	0.91	0.24
Uniform Delay, d1		41.5			35.8	11.3	11.0	48.1	41.9	40.7	48.1	34.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		14.7			30.2	0.1	0.1	12.7	28.4	13.7	41.0	0.3
Delay (s)		56.3			66.0	11.3	11.1	60.8	70.2	54.5	89.1	34.8
Level of Service		E			E	B	B	E	E	D	F	C
Approach Delay (s)		56.3				32.5			62.6			67.8
Approach LOS		E				C			E			E

Intersection Summary			
HCM Average Control Delay	47.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	25
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	26
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	40
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

City of Portland

Office of Transportation
1120 SW 5th Ave, Rm 800
Portland, OR 97204

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Cldy 55f By: CDB/RC For: Zhou

NW NICOLAI ST @ NW YEON AVE/I405 RAMPS

Groups Printed- VEHS PEDS

	NW YEON AVE Southbound					NW NICOLAI ST Westbound					NW YEON AVE/I405 RAMP Northbound					NW NICOLAI ST Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
11:00	8	216	17	0	241	14	7	8	0	29	46	201	12	0	259	16	7	68	0	91	0	620	620
11:15	9	230	21	0	260	17	3	9	0	29	40	225	18	0	283	7	10	68	0	85	0	657	657
11:30	5	239	35	0	279	24	12	8	0	44	39	182	15	0	236	19	9	72	1	100	1	659	660
11:45	9	264	20	0	293	17	12	6	0	35	31	250	14	0	295	15	3	76	0	94	0	717	717
Total	31	949	93	0	1073	72	34	31	0	137	156	858	59	0	1073	57	29	284	1	370	1	2653	2654
12:00	7	231	22	0	260	13	8	17	0	38	41	201	6	0	248	20	3	96	0	119	0	665	665
12:15	12	248	31	0	291	8	2	26	0	36	45	216	13	0	274	24	7	72	0	103	0	704	704
12:30	17	243	41	0	301	3	1	21	0	25	35	219	12	0	266	24	4	62	0	90	0	682	682
12:45	13	245	19	0	277	9	6	21	0	36	52	230	19	0	301	24	3	51	0	78	0	692	692
Total	49	967	113	0	1129	33	17	85	0	135	173	866	50	0	1089	92	17	281	0	390	0	2743	2743
Grand Total	80	1916	206	0	2202	105	51	116	0	272	329	1724	109	0	2162	149	46	565	1	760	1	5396	5397
Apprch %	3.6	87	9.4			38.6	18.8	42.6			15.2	79.7	5			19.6	6.1	74.3					
Total %	1.5	35.5	3.8		40.8	1.9	0.9	2.1		5	6.1	31.9	2		40.1	2.8	0.9	10.5		14.1	0	100	

NOTE: NW 29TH AVE CLOSED YEON TO NICOLAI

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NW NICOLAI ST @ NW YEON AVE/I405 RAMPS

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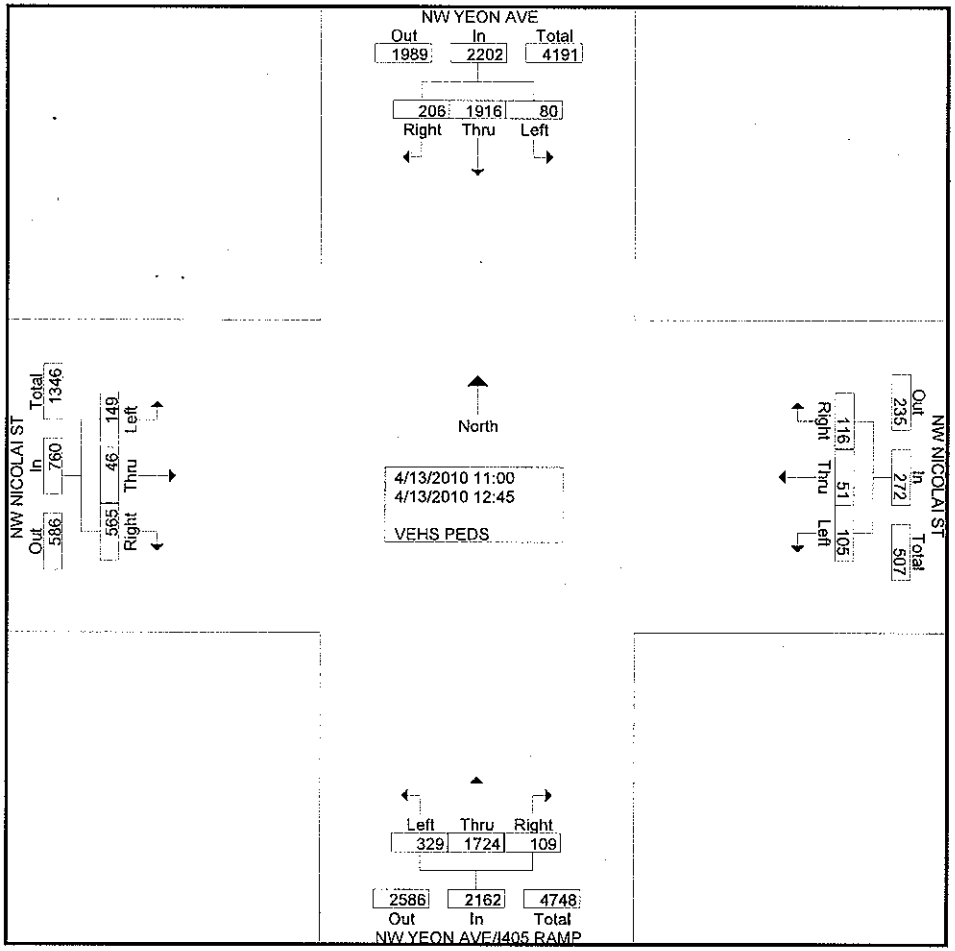

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Cldy 55f By: CDB/RC For: Zhou

NW NICOLAI ST @ NW YEON AVE/I405 RAMPS

	NW YEON AVE Southbound				NW NICOLAI ST Westbound				NW YEON AVE/I405 RAMP Northbound				NW NICOLAI ST Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45																	
11:45	9	**264**	20	293	**17**	**12**	6	35	31	**250**	**14**	**295**	15	3	76	94	**717**
12:00	7	231	22	260	13	8	17	**38**	41	201	6	248	20	3	**96**	**119**	665
12:15	12	248	31	291	8	2	**26**	36	**45**	216	13	274	**24**	**7**	72	103	704
12:30	**17**	243	**41**	**301**	3	1	21	25	35	219	12	266	24	4	62	90	682
Total Volume	45	986	114	1145	41	23	70	134	152	886	45	1083	83	17	306	406	2768
% App. Total	3.9	86.1	10		30.6	17.2	52.2		14	81.8	4.2		20.4	4.2	75.4		
PHF	.662	.934	.695	.951	.603	.479	.673	.882	.844	.886	.804	.918	.865	.607	.797	.853	.965

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O'cast by: CDB For: Zhou

NW 23RD AVE/VAUGHN ST/I405 NB EX

Groups Printed- VEHS PEDS

	NW 23RD AVE Southbound					I-405 NB EX Southwestbound						NW VAUGHN ST Westbound		NW 23RD AVE Northbound					NW VAUGHN ST Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00	23	6	7	0	36	43	87	118	28	0	276	0	0	8	10	88	0	106	0	107	12	4	123	0	541	541
10:15	34	17	5	1	56	41	77	120	39	0	277	0	0	24	15	130	0	169	0	96	10	0	106	1	608	609
10:30	28	15	6	1	49	51	77	106	36	0	270	0	0	20	13	95	0	128	0	112	21	1	134	1	581	582
10:45	37	13	11	0	61	48	68	132	35	0	283	0	0	22	22	89	0	133	0	128	18	7	153	0	630	630
Total	122	51	29	2	202	183	309	476	138	0	1106	0	0	74	60	402	0	536	0	443	61	12	516	2	2360	2362
11:00	24	15	10	4	49	44	88	116	31	0	279	0	0	23	14	102	0	139	0	135	21	3	159	4	626	630
11:15	26	19	2	2	47	39	51	126	47	0	263	0	0	22	17	111	0	150	0	131	17	5	153	2	613	615
11:30	32	14	6	2	52	39	71	120	38	0	268	0	0	31	12	93	0	136	1	115	28	14	158	2	614	616
11:45	38	11	7	0	56	44	96	114	38	0	292	0	0	25	20	114	0	159	0	113	17	0	130	0	637	637
Total	120	59	25	8	204	166	306	476	154	0	1102	0	0	101	63	420	0	584	1	494	83	22	600	8	2490	2498
Grand Total	242	110	54	10	406	349	615	952	292	0	2208	0	0	175	123	822	0	1120	1	937	144	34	1116	10	4850	4860
Apprch %	59.6	27.1	13.3			15.8	27.9	43.1	13.2	0		0		15.6	11	73.4	0		0.1	84	12.9	3				
Total %	5	2.3	1.1		8.4	7.2	12.7	19.6	6	0	45.5	0	0	3.6	2.5	16.9	0	23.1	0	19.3	3	0.7	23	0.2	99.8	

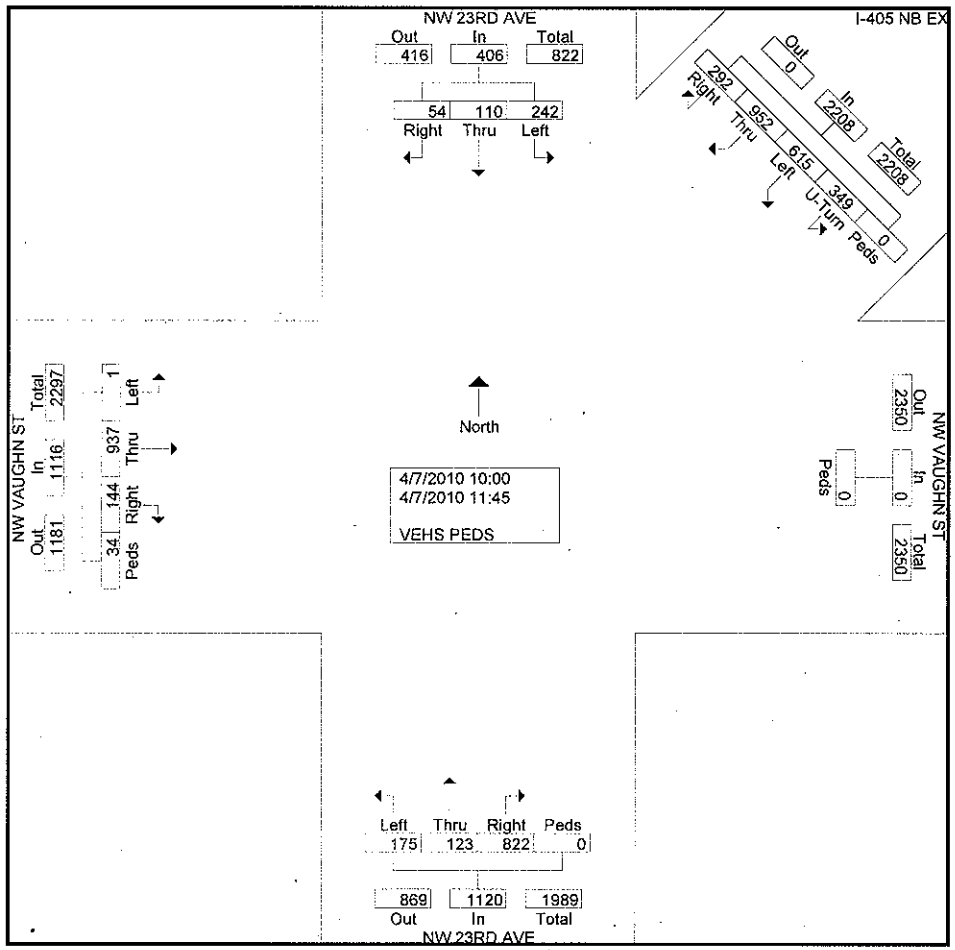
City of Portland

Office of Transportation
1120 SW 5th Ave, Rm 800
Portland, OR 97204

O'cast by: CDB For: Zhou

NW 23RD AVE/VAUGHN ST/I405 NB EX

File Name : 100407TOB
Site Code : 00000000
Start Date : 4/7/2010
Page No : 2



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NW 23RD AVE/VAUGHN ST/I405 NB EX

	NW 23RD AVE Southbound					I-405 NB EX Southwestbound					NW VAUGHN ST Westbound		NW 23RD AVE Northbound					NW VAUGHN ST Eastbound					
Start Time	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 to 11:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 11:00																							
11:00	24	15	**10**	49	**44**	88	116	31	0	279	0	0	23	14	102	0	139	0	**135**	21	3	**159**	626
11:15	26	**19**	2	47	39	51	**126**	**47**	0	263	0	0	22	17	111	0	150	0	131	17	5	153	613
11:30	32	14	6	52	39	71	120	38	0	268	0	0	**31**	12	93	0	136	**1**	115	**28**	**14**	158	614
11:45	**38**	11	7	**56**	**44**	**96**	114	38	0	**292**	0	0	25	**20**	**114**	0	**159**	0	113	17	0	130	**637**
Total Volume	120	59	25	204	166	306	476	154	0	1102	0	0	101	63	420	0	584	1	494	83	22	600	2490
% App. Total	58.8	28.9	12.3		15.1	27.8	43.2	14	0		0		17.3	10.8	71.9	0		0.2	82.3	13.8	3.7		
PHF	.789	.776	.625	.911	.943	.797	.944	.819	.000	.943	.000	.000	.815	.788	.921	.000	.918	.250	.915	.741	.393	.943	.977

CITY OF PORTLAND OFFICE OF TRANSPORTATION

Traffic Volume Report

LOCATION

Location: NW WARDWAY ST E of 29TH AVE / NICOLAI ST

Bound: N **Channels:** 1

Date: From 4/12/2010 10:45:00 AM (MON) to 4/14/2010 12:30:00 PM (WED)

CountID: 10041221.VL1

NOTES

Excpt Type: Obstruction

Conditions:

Comment: **NW 29TH AVE CLOSED N/NICOLAI

Count Loc: NW WARD WAY S/NW NICOLAI ST

SUMMARY DATA

	AM	PM	Daily
Total Volume:	1520	2125	3645
Peak Hour Volume:	269	302	302
Peak Hour Start:	6:45	16:15	16:15
Peak Hour Factor:	0.862	0.878	

INTERVAL DATA

Hour	Min: 00-15	Min: 16-30	Min: 31-45	Min: 45-60	Total
0	4	8	5	4	21
1	2	1	6	4	13
2	5	5	7	3	20
3	4	6	2	3	15
4	6	4	10	15	35
5	16	20	27	38	101
6	40	40	51	68	199
7	55	68	78	65	266
8	52	50	62	56	220
9	54	56	55	38	203
10	55	50	48	52	205
11	45	59	58	60	222
12	58	67	73	69	267
13	84	59	68	61	272
14	67	61	64	60	252
15	61	72	80	64	277
16	68	66	66	86	286
17	84	66	64	59	273
18	46	46	38	40	170
19	41	24	16	26	107
20	19	14	17	23	73
21	16	14	14	18	62
22	15	11	15	12	53
23	10	8	8	7	33

CITY OF PORTLAND OFFICE OF TRANSPORTATION

Traffic Volume Report

LOCATION

Location: NW NICOLAI ST W of 29TH AVE / WARDWAY ST

Bound: E **Channels:** 1

Date: From 4/12/2010 10:30:00 AM (MON) to 4/14/2010 12:30:00 PM (WED)

CountID: 10041222.VL1

NOTES

Excpt Type: Obstruction

Conditions:

Comment: **NW 29TH AVE CLOSED N/NICOLAI

Count Loc: NW NICOLAI ST W/NW WARD WAY

SUMMARY DATA

	AM	PM	Daily
Total Volume:	2745	3105	5850
Peak Hour Volume:	582	526	582
Peak Hour Start:	7:30	16:0	7:30
Peak Hour Factor:	0.887	0.854	

INTERVAL DATA

Hour	Min: 00-15	Min: 16-30	Min: 31-45	Min: 45-60	Total
0	9	9	11	10	39
1	9	5	6	7	27
2	7	6	13	10	36
3	9	23	5	9	46
4	11	12	14	16	53
5	19	32	43	47	141
6	39	58	74	108	279
7	84	109	164	152	509
8	122	144	118	101	485
9	107	83	87	94	371
10	86	67	100	79	332
11	96	102	120	109	427
12	119	98	108	123	448
13	101	107	97	111	416
14	111	85	97	87	380
15	98	99	125	89	411
16	147	120	154	105	526
17	147	96	79	67	389
18	57	54	45	45	201
19	33	38	30	17	118
20	21	25	20	15	81
21	20	8	12	12	52
22	15	14	10	12	51
23	7	11	4	10	32

CITY OF PORTLAND OFFICE OF TRANSPORTATION

Traffic Volume Report

LOCATION

Location: NW NICOLAI ST E of 29TH AVE / WARDWAY ST

Bound: W **Channels:** 1

Date: From 4/12/2010 10:30:00 AM (MON) to 4/14/2010 12:15:00 PM (WED)

CountID: 10041227.VL1

NOTES

Excpt Type: Obstruction

Conditions:

Comment: **NW 29TH AVE CLOSED N/NICOLAI

Count Loc: NW NICOLAI ST E/NW WARD WAY

SUMMARY DATA

	AM	PM	Daily
Total Volume:	1506	1316	2822
Peak Hour Volume:	273	231	273
Peak Hour Start:	7:0	12:45	7:0
Peak Hour Factor:	0.822	0.902	

INTERVAL DATA

Hour	Min: 00-15	Min: 16-30	Min: 31-45	Min: 45-60	Total
0	7	7	3	8	25
1	6	7	12	3	28
2	9	6	4	4	23
3	10	1	7	7	25
4	5	14	12	12	43
5	10	15	21	36	82
6	33	35	60	67	195
7	56	83	56	78	273
8	53	62	54	47	216
9	50	53	52	54	209
10	44	51	47	50	192
11	56	41	57	41	195
12	67	52	41	62	222
13	43	62	64	51	220
14	50	49	52	47	198
15	40	36	54	40	170
16	45	32	38	32	147
17	52	37	34	21	144
18	19	17	9	11	56
19	8	8	11	6	33
20	5	7	12	10	34
21	10	9	9	7	35
22	8	8	8	8	32
23	9	4	7	5	25

ORDINANCE 10-1246
ATTACHMENT 4 TO STAFF REPORT

600 NE Grand Ave.
Portland, OR 97232-2736
503-797-1700
503-797-1804 TDD
503-797-1797 fax

www.oregonmetro.gov

Metro | *Memo*

Date: Friday, August 6, 2010
To: Ted Reid, Regional Planner
From: Anthony Butzek, Metro Transportation Engineer; PE, PTOE
Subject: Portland Title 4 Amendment – NW Remand (internal)

I am able to sign off on Portland's compliance with Title 4 pertaining to traffic and freight movement.

Title 4 requires that the proposed change*… "would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on Metro's 2004 Regional Freight System Map below standards in the Regional Transportation Plan ("RTP"), or exceed volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan ("OHP") for state highways, unless mitigating action is taken that will restore performance to RTP and OHP standards within two years after approval of uses."*

The applicable freight routes in the vicinity are NW Nicolai Street and US 30. Specifically, Metro asked the City to review the following intersections for compliance with Title 4:

- NW Nicolai St. at US 30
- NW Nicolai St. at NW Wardway St. / NW 29th Ave.
- NW Vaughn St. at NW 23rd Ave. / US 30 (I-405) ramps

The City has demonstrated to a reasonable extent that the proposed changes would not reduce off-peak performance on either facility below standards contained in the RTP or OHP. The City's analysis was for year 2030 conditions.

The City produced a Traffic Analysis as a technical memorandum, which is available for review. As documented in the analysis, the proposed land use changes have a negligible off-peak traffic impact.

Agenda Item Number 6.1

Resolution No. 10-4187, For the Purpose of Declaring a Vacancy in the Office of Metro Council President.

Metro Council Meeting
Thursday, Sept. 9, 2010
Metro Council Chambers

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF DECLARING A VACANCY IN THE OFFICE OF METRO COUNCIL PRESIDENT	)))	RESOLUTION NO. 10-4187 Introduced by Councilor Kathryn Harrington

WHEREAS, DAVID BRAGDON was elected by the Metro Area voters to the Office of Metro Council President at the November 5, 2002 General Election for a four-year term, commencing on January 6, 2003 and ending on January 2, 2007;

WHEREAS, DAVID BRAGDON was re-elected by the Metro Area voters to the Office of Metro Council President at the May 16, 2006 Primary Election for an additional four-year term, through January 3, 2011;

WHEREAS, DAVID BRAGDON has tendered his resignation as Metro Council President to the Metro Council effective Noon on September 7, 2010 pursuant to his letter to the Deputy Metro Council President Carlotta Collette dated August 11, 2010, attached hereto as Exhibit A;

WHEREAS, Metro Code Section 9.01.050 provides that the vacancy in office shall be filled by the making of an appointment by a majority of the remaining members of the Metro Council for a term ending on the first Monday in January or January 3, 2011; and

WHEREAS, Metro Code Section 9.01.060 provides for the procedures to be followed by the Metro Council in making Metro Council appointments; and

WHEREAS, Metro Code Section 2.01.010 and Section 9.01.070 provide that in the event a vacancy exists in the Office of the Council President, the Deputy Council President shall serve as the Acting Council President until a new Council President is elected or appointed; now therefore

BE IT RESOLVED:

1. That the Metro Council hereby declares that a vacancy exists in the Office of Metro Council President, as provided for in Metro Code Section 9.01.030;

2. That Acting Council President Carlotta Collette shall commence the appointment process for filling the vacancy as provided for in Metro Code Section 9.01.050; and

3. That the remainder of the term of the Office of Metro Council President through January 3, 2011 shall be filled by the making of an appointment by a majority of the remaining members of the Metro Council for the remaining term ending on January 3, 2011.

ADOPTED by the Metro Council this _____ day of _____ 2010.

_____
Carlotta Collette, Deputy Council President

Approved as to Form:

_____
Daniel B. Cooper, Metro Attorney

Exhibit A to Resolution No. 10-4187

August 11, 2010 Letter by Metro Council President David Bragdon

Exhibit A to Resolution No. 10-4187

600 NE Grand Ave.
Portland, OR 97232-2736
503-797-1540
503-797-1804 TDD
503-797-1793 fax

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Metro | *People places. Open spaces.*

COUNCIL PRESIDENT DAVID BRAGDON

August 11, 2010

Deputy Council President Carlotta Collette
Metro Council
600 NE Grand Avenue

Dear Councilor Collette

I hereby resign my position as Metro Council President effective noon on September 7, 2010.

Sincerely,

David Lincoln Bragdon
Metro Council President

CC: Metro Councilors:
Carl Hosticka
Kathryn Harrington
Rex Burkholder
Robert Liberty
Rod Park

Suzanne Flynn, Metro Auditor
Michael Jordan, Metro Chief Operating Officer
Dan Cooper, Metro Attorney

Materials following this page were distributed at the meeting.

MINUTES OF THE METRO COUNCIL MEETING

Thursday, August 19, 2010
Metro Council Chamber

Councilors Present: Council President David Bragdon, Kathryn Harrington, Robert Liberty, Carl Hosticka, Rod Park, Carlotta Collette, Rex Burkholder

Councilors Absent:

Council President David Bragdon convened the Regular Council Meeting at 2:00 p.m.

1. INTRODUCTIONS

President Bragdon introduced Gresham City Councilor Shirley Craddick who was in attendance.

2. CITIZEN COMMUNICATIONS

There were none.

3. CONSENT AGENDA

3.1 Consideration of minutes for the August 12, 2010 Regular Council Meeting.

3.2 **Resolution No. 10-4184,** For the Purpose of Confirming the Appointment of the Vice Chair for the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council's Alternates for JPACT

Motion:	Councilor Hosticka moved to adopt the meeting minutes of the August 12, 2010 Regular Metro Council meeting and Resolution No. 10-4184.
Vote:	Council President Bragdon and Councilors Liberty, Harrington, Hosticka, Burkholder, Park and Collette voted in support of the motion. The vote was 7 aye, the motion passed.

4. RESOLUTIONS

4.1 **Resolution No. 10-4166,** For the Purpose of the Metro Council Formally Endorsing The Oregon Children's Outdoor Bill of Rights

Motion:	Councilor Burkholder moved to adopt Resolution No. 10-4166.
Seconded:	Councilor Liberty seconded the motion

Councilor Burkholder introduced the resolution and discussed the need for access to natural environments for Oregon's youth.

Vote:	Council President Bragdon and Councilors Harrington, Burkholder, Hosticka, Park, Collette and Liberty voted in support of the motion. The vote was 7 aye, the motion passed.

4.2 **Resolution No. 10-4176,** For the Purpose of Amending the 2008-11 Metropolitan Transportation Improvement Program (MTIP) to Change the Scope of Work on the Southeast Harmony Road: Highway 224 to 82nd Avenue Project

Motion:	Councilor Collette moved to adopt Resolution No. 10-4176.
Seconded:	Councilor Park seconded the motion

Councilor Collette introduced the resolution. She discussed specifics of the project and funding. Councilor Burkholder discussed dynamics of the projects. Councilor Collette discussed the importance and implementation of cost planning. She closed discussion on the resolution.

Vote:	Council President Bragdon and Councilors Harrington, Hosticka, Park, Burkholder, Collette and Liberty voted in support of the motion. The vote was 7 aye, the motion passed.

4.3 **Resolution No. 10-4182,** For the Purpose of Confirming the Reappointment of Pre-Existing Members and the Appointment of New Members to the Natural Areas Program Performance Oversight Committee

Motion:	Councilor Harrington moved to adopt Resolution No. 10-4182.
Seconded:	Councilor Hosticka seconded the motion

Councilor Harrington introduced the resolution. She discussed bond specifics and deliverables of the Committee, including Committee function. She noted current Committee members and new appointments. President Bragdon invited Linda Craig, Committee Chair, to speak on her experiences and future vision for the Committee. Councilor Liberty asked about program management. Councilor Burkholder asked about ongoing maintenance and restoration and subsequent funding streams. Ms. Craig discussed stabilization funding and Committee roles. Councilor Park discussed long-term vision and benefits. Councilor Harrington was impressed with the volunteers on the Committee. She closed discussion on the resolution.

Vote:	Council President Bragdon and Councilors Harrington, Hosticka, Park, Burkholder, Collette and Liberty voted in support of the motion. The vote was 7 aye, the motion passed.

5. CONTRACT REVIEW BOARD

5.1 **Resolution No. 10-4183,** Resolution of Metro Council, Acting as the Metro Contract Review Board, For the Purpose of Approving a Contract Amendment for the Irving Street Garage Project

Motion:	Councilor Harrington moved to adopt Resolution No. 10-4183.
Seconded:	Councilor Burkholder seconded the motion

Councilor Harrington outlined the garage project and budget amendments, including change orders. Councilor Burkholder discussed funding specifics and looking forward. Councilor Park asked about revenue generation from parking garage operations. Michael Jordan, COO, said he foresaw investments repaid in four years. He said it was a large asset to the facility.

Vote:	Council President Bragdon and Councilors Harrington, Hosticka, Park, Burkholder, Collette and Liberty voted in support of the motion. The vote was 7 aye, the motion passed.

6. CHIEF OPERATING OFFICER COMMUNICATION

Michael Jordan, COO, updated Councilors on agency events and issues. He discussed the Pier Park Pedestrian Bridge and related issues.

7. COUNCILOR COMMUNICATION

Councilors discussed events and meetings they attended throughout the region and provided updates. Councilor Burkholder discussed the Council Office's integration of the De La Salle internship program into Council operations and a future Council retreat in the fall.

8. ADJOURN

There being no further business to come before the Metro Council, Council President Bragdon adjourned the meeting at 2:45 p.m.

Prepared by

Tony Andersen
Clerk of the Council

ATTACHMENTS TO THE PUBLIC RECORD FOR THE MEETING OF August 19, 2010

Item	Topic	Doc. Date	Document Description	Doc. Number
2.0	Letter	2/11/09	To: Governors Christine Gregoire and Ted Kulongoski From: Senator Don Benton Re:Columbia River Crossing Date: February 11, 2009	081910c-1
3.2	Resolution	8/19/10	Resolution No. 10-4184	081910c-2