• Welcome and introductions (5 minutes)
• Performance management and innovation (90 minutes)
• Lights on dialogue: takeaways and next steps (15 minutes)
• End at 10 minutes to the hour
The first row of boxes represents all the strategic master plans that currently exist:

- Strategic Transportation Plan
- Strategic Parking Plan
- Solid Waste Management Master Plan
- Storm Drainage Master Plan
- Sanitary sewer Master Plan
- Denver Moves Plan
- Greenprint Denver
- Pavement Management Plan

Under each category you will notice turquoise/blue boxes:

The tactics maximize investment of City Funds, for example:

- New investment to upgrade infrastructure (Sanitary Sewer plan)
- Increase direct benefits to end-users (Solid Waste plan)
- Incorporate new technologies (Greenprint Denver)
- Increase revenue sources, such as fees, licenses, tax generation
- Implement cost reductions

**FINALLY,** all these tactics cannot work without:

- Completing the projects on time and on budget
- Maximizing local and outside sources
- And managing contractors’ performance and change orders
Representative of HOW priorities are chosen for budgetary investment and targeted innovation.

Balancing Wants, Needs, and Regulatory Requirements is the first test of viability. The second test is the presence of Political will, Financial resources, and Technical capability. If a proposal or project makes it through both filters, then it is ripe for implementation or innovation. Public Works includes these projects/proposals into its 24-month SMART Plan.
SMART is a 24 month action plan that ties together the Department’s 8 strategic plans into a cohesive document. It is a listing of actionable items that achieve progress toward the desired outcomes.
Employee Engagement Index has risen since the last survey. PW is engaging employees at each level to support growth and communication. More will be discussed in a later slide.

Disciplinary Actions have fallen over the last two years. We expect that the trend will continue as the Employee Engagement Index rises.

Employee Turnover Rate for PW is less than Citywide rate of 11.6%.

OHR data indicates that there has been a jump in training contacts in the past two years. We expect that trend to continue – a simple 4X calculation of 2014 1st Quarter data indicates that contacts will be near 1,000.

Greenbelt and Blackbelt training is continuing through both CityU OHR training and through our in-house channels.
**Lane Miles Paved:** Average lifecycle of street in City network is about 14 years – which equates to 7.7% of streets that should be paved annually or 475 lane miles. This is to maintain roads at a high PCI (Above 72).

**Lane Miles Swept:** 100,000 lane miles has consistently kept the City in compliance with EPA regulations for particulate matter

**Manhole Adjustments (WWOPS):** critical step in paving operations; efficiency in adjustments allows for effective workflow that allows Street Maintenance to produce more paved streets. April 2014 RIE is seeking 25% productivity increase.

**Cumulative Miles of Denver Moves Network Built:** Denver Moves Goal

**% of Households within ¼ mile of High Ease of Use facility:** Denver Moves Goal

**New or Rebuilt Traffic Signals:** 50 annually is a pace to address the entire City inventory on a 25-year cycle. 25 Years is the projected life of the typical Denver signal. Productivity is frequently impacted by design time, contract time, and right of way procurement.

**Total Signs Installed:** 35,000 annually puts the City on a 17-year replacement cycle; this cycle is determined by a 10-year warranty plus 7-years of life

**Durable Pavement Markings – Crosswalks:** Seeking a 4-year replacement cycle; 1,000 annually achieves that goal
PURPLE = Bike and Pedestrian Mode Share
• 2012 Mode Share = 7.9%
• Seeking 15% Mode Share

RED Line = New Bike Facilities Built
• 2013 = 148 Miles
• 148 miles is representative of 48% of total (See Thermometer)
• 20 miles projected for 2014
In efforts to reduce obstructions, WMD preventatively maintains sanitary and storm systems by monitoring, cleaning, repairing, and rehabilitating/reconstructing system components.

**Line Televised** – Televise sanitary and storm sewer systems to identify existing and potential problem areas, as well as assist planning engineers with their long range sewer rehabilitation projects. Televising is done on all new sewer installations for acceptance and in support of water quality.

**Number of Backups** – In 2013, WMD received 552 calls that required emergency response. 1% of those incidents of damage were caused by a backup of the City line.

**Plugged Main Response Time** – WMD responds within hours to all calls so the problem can be remedied as soon as possible. This benefits the customer and the City by keeping cleanup costs low.

**Number of Catch Basins Cleaned** – For overall water quality, approximately 40,000 City catch basins are vacuumed and cleaned annually to provide the highest level of service.

**Footage of Storm** – Systems Maintenance cleans lines by clearing, jetting, and flushing approximately 650,000 feet of storm sewer systems.

**WQ Treatment on NEXT SLIDE**
There are 30 Drainage Basins in Denver. Overall, the treated area equals only about 12.9%.

There are 10 areas where the treatment level is under 5% - these are the priority areas indicated by the RED DIAMOND. These areas were primarily built prior to the existence of water quality regulations. In contrast, newer developments like Stapleton are above 90%.

Bringing each of these areas up to just the 5% mark improves the City-wide treatment by 1.1%.
Requires Capital Investment.
Currently serving 173,000+ households.

**Back up Info:**
Trash tons/household:
- Dumpster hh = 1.53 Tons/HH/Yr
- Manual HH= 0.72 Tons/HH/Yr
- Trash Cart HH = 1.09 Tons/HH/Yr
- Average tons per HH = 1.15 Tons/HH/Yr

Conversion: Since the majority of homes will be transitioned after July we’re not taking a lot of reduction for 2014. 2015 we’ll be able to take a greater reduction.
Seeking to Increase Recycle Subscription rate from 71% through cart conversion.

Seeking to Increase Recycle Rate to National Average of 34%.
Composting has the greatest growth potential; thus, it has the greatest influence on raising the Recycling and Composting percentage of waste metric.

Recycle and Compost as % of Waste = 13.9%
• Contrast with Seattle Residential (71%)

Recycle Tons and Subscription Rate have remained flat.

Need to Increase Recycle Tonnage.

Composting has been limited.
Vehicle Turnover Rate:
• Seeking High 1-Day or less turnover rate.
• Metric influenced by Technician efficiency and performance, fleet condition (age)

Avg. Age of Fleet
• Metric has direct influence on maintenance costs, vehicle turnover rate, and equipment availability
• 2014 Replacement funding should hold the avg. age steady or decrease slightly

Alternative Fuel Consumption:
• Only Average 1 month of consumption from the 7 new CNG vehicles. CNG Usage will grow.
• E-85 Fuel has become costly and no longer preferred.
• Very few propane vehicles in the fleet.

Alt./Hybrid Fuel Vehicles:
(Figures do not contain Diesel vehicles which have been counted in other metrics due to our use of biodiesel blend. Now at 5% blend.)
• Increasing metric leads to greater diversity of fuels and greater resiliency to cost fluctuations
• These vehicles still require greater upfront investment than conventional fuel vehicles
• To increase these vehicles in the fleet requires careful consideration for fuel infrastructure availability

Equipment Availability:
• Metric influenced by quality of data, Technician efficiency and performance, and Fleet condition (age)
• 2011 to 2012 change related to increase in data quality

Parts Inventory Value at Year End:
• Parts sitting on a shelf restricts working capital

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<table>
<thead>
<tr>
<th>Metrics</th>
<th>Goals</th>
<th>2011 Actual</th>
<th>2012 Actual</th>
<th>2013 Actual</th>
<th>2014 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Turnover Rate (1 Day or less repair time)</td>
<td>Industry Benchmark 75%</td>
<td>49.81%</td>
<td>54.29%</td>
<td>50.34%</td>
<td></td>
</tr>
<tr>
<td>Avg Age of Fleet (PW Only, All Classes)</td>
<td>Reduce</td>
<td>6.9 Years</td>
<td>7.6 Years</td>
<td>7.8 Years</td>
<td>--</td>
</tr>
<tr>
<td>Alt Fuel Consumption (% of total)</td>
<td>Increase</td>
<td>n/a</td>
<td>n/a</td>
<td>1.63%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Alt./Hybrid Fuel Vehicles % (not including diesels)</td>
<td>Increase</td>
<td>31%</td>
<td>31%</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td>Equipment Availability (PW Only) Industry Benchmark 95%</td>
<td>Increase (37.8%)</td>
<td></td>
<td>92.3%</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>Parts Inventory Value</td>
<td>Decrease</td>
<td>$1,890,294</td>
<td>$1,924,490</td>
<td>$2,064,237</td>
<td></td>
</tr>
</tbody>
</table>

Goal: Manage assets

* When first implemented FASTER had data quality issues.
Fuel Consumption:
- Only Average 1 month of consumption from the 7 new CNG vehicles. CNG Usage will grow.
- Only 3 CNG vehicles were operating throughout 2013, 4 were added late in the year. There is lag in the consumption data.
- Up to 16 CNG vehicles will be operating in 2014
- Another 19 CNG trash trucks to be delivered late in 2014

Trend Analysis: CNG will become a more prominent fuel in our overall consumption. Trash Trucks consume approximately 40% of all Diesel Fuel, meaning that continued conversion will take a significant bite out of the overall diesel consumption. To add more CNG vehicles without affecting operations will require additional investment in fueling infrastructure (additional fueling stations at camps).
Current Year: 5 Value Streams
• Solid Waste Management (Cart Delivery)
• Fleet Management (FAOP, Parts Distribution, Parts Ordering, Parts Inventory)
• Right of Way Enforcement (Project Jonah)
• Paving Program (WWOPS Manholes – Completed)
• Capital Projects Management (Project Reporting)

Long-term
• Fleet – Priority
• Respond to Audit Reports where feasible
• Solid Waste Management
• Seeking to expand our in-house Lean Facilitation capacity

2013 by the Numbers
• 5 VSAs completed
• 16 of 36 JDI’s implemented (44%)
• 4 RIEs completed

Current Year
• PROCESS: 5 Value Streams currently targeted
  • 11 innovation events/projects scheduled
  • Fleet Optimization
• PEOPLE: 40 (3%) Blackbelts, 268 (25%) Green Belts
• TECHNOLOGY: Textura, Fleet Wireless Project, Zonar, Drivecam

Long-term
• PROCESS
  • Fleet Optimization, Audit Report Response, Solid Waste Management
  • “Project Jonah”: ROW Enforcement Strategy
  • Expand in-house facilitation capacity
• PEOPLE
  • 50% of Employee Base Trained, 5% Blackbelt
• TECHNOLOGY
  • PMIS Contract, Enterprise Cashiering Expansion, FASTER Fleet Upgrade, PeopleSoft/Faster Integration
Innovation Tracking

**Tracking the Innovations**

- **Service Level Improvements**
  - Dumpster Service – reduced WO backlog from 141 to 31
  - Utility Reviews – diverted 56% of utility reviews into quick review process, reducing average time to process
  - Fleet Replacement Specifications – reduce 5 months worth of equipment downtime by ordering building specs and ordering by benchmark dates
  - Residential Parking Permits – 27% decrease in time to process applications

- **Human Development**
  - Right Management: Assessed and Trained managers and supervisors in Coaching and Conflict Management
  - Road to Excellence Training and feedback reached over 90% of employees
  - Interview Skills and Resume Building offered to employees as result of Road to Excellence
  - 4% of workforce trained as Lean Black Belts; 25% as Green Belts
  - Pre-Supervisory Training

- **Financial**
  - 2013: $220,600 Estimated JDI Hard Savings
  - 2013: $1.2M Estimated RIE Hard Savings
  - Soft Savings Examples:
    - Soft $: $17,600 annually due to increased Dumpster Repair Production
    - Soft $: $90,000 annually due to Utility Review Process modification
## Sustainability Update: Denver Moves

<table>
<thead>
<tr>
<th>Resource Investment</th>
<th>Projected Contribution to Meeting 2020 Goals</th>
<th>Key Assumptions &amp; Critical Issues</th>
<th>Upcoming Benchmarks and Status</th>
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<tr>
<td>• Policy, Planning and Sustainability operating budget: 1FTE ~$85K</td>
<td>• Mobility – Reduce single-occupant vehicles to no more than 60% of all trips</td>
<td>• Accelerate Denver Moves Network completion from 10 to 15 miles annually</td>
<td>• 15th Street Bike Lane installed in 2013 (10 blocks, nearly 1 mile)</td>
</tr>
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<td>2014 Expansion 1.5 FTE ~$130K</td>
<td>• Mobility – Reduce single-occupant vehicles to no more than 60% of all trips</td>
<td>• Green Lane Project provides planning and technical assistance, costs of installation of protected lanes will be from local or grant funding</td>
<td>• 20 miles to be added to Denver Moves Network in 2014</td>
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<td>• $500,000 capital expenditure budget</td>
<td>• Mobility – Reduce single-occupant vehicles to no more than 60% of all trips</td>
<td>• Green Lane Project provides planning and technical assistance, costs of installation of protected lanes will be from local or grant funding</td>
<td>• Green Lane Project currently exploring designs for 14th Street and Lawrence Street</td>
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<td>• Traffic Engineering Services operating budget – $140k for sharrows and bike lane maintenance</td>
<td>• Mobility – Reduce single-occupant vehicles to no more than 60% of all trips</td>
<td>• Green Lane Project provides planning and technical assistance, costs of installation of protected lanes will be from local or grant funding</td>
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<td>• Street Maintenance operating budget – $80k snow removal of bike lane arterials</td>
<td>• Mobility – Reduce single-occupant vehicles to no more than 60% of all trips</td>
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<td>$4M capital for Conversion completion is for carts</td>
<td></td>
<td>Established committee of City staff, elected officials and citizens to develop position statements and make formal recommendations for implementation of the Master Plan</td>
<td>• Replacing 30% of aging trash and recycling fleet in 2014</td>
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<td>$6-10M capital for Citywide Composting is for carts and trucks</td>
<td></td>
<td>• Established committee of City staff, elected officials and citizens to develop position statements and make formal recommendations for implementation of the Master Plan</td>
<td>• 2014 Expansions:</td>
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<td>• Education outreach to neighborhoods benefiting from the 2014 conversions and publication to all residents on how to utilize trash, recycling, composting and large item pick-up services</td>
<td>- Composting, doubling program to 4,600 households and diverting 2,400 tons from landfill</td>
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<td>TO REACH 2020 GOAL:</td>
<td>- Convert 3,000 Globeville, Elyria, Swansea households from manual and dumpster to automated cart collection</td>
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<td>- Complete conversion of SWM’s portion ~50% of yard waste to trucks</td>
<td>- Add automated cart and recycling collection routes to Green Valley Ranch and Stapleton – 4,000 households</td>
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<tr>
<td></td>
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<td>- 19 of 20 households by 2020, complete in 2024 at 8 routes and 20,000 households</td>
<td>- Additional $925k for automated cart conversion for total of 20,000 households in 2014</td>
</tr>
</tbody>
</table>

$4M capital for Conversion completion is for carts

$6-10M capital for Citywide Composting is for carts and trucks
Continued CNG Conversion alone meets the 2020 goals of 1.5% emissions reduction per year.

On top of that, the Fleet Replacement investment takes another large bite just by replacing 8-10 year old vehicles with the latest standard emissions technologies. For example, new diesel fuel vehicles have emissions filtering technologies that were not standard on vehicles several years ago.
Textura Implementation (Construction)
• Internet based construction payment system
• Time to issue payments reduced by 1 week

Solid Waste Management Dumpster Service RIF
• Reduced the dumpster maintenance work order backlog by over 75%
• Reducing work orders over 60 days old by 97%, over 30 days old by 94%, and under 30 days by 48%

Residential Parking Permit Process
• 18,000 applications to be submitted electronically
• Reduced staff review time by 27%
• 2014 improvements include expanding online services to new RPP applications

Weekend ROW Inspector
• Expected 2014 implementation of weekend ROW Inspector will allow at least 10 customers weekly to avoid a 2 day wait for permit issuance

Utility Reviews
• New review thresholds excuses ~400 submissions from the review process
• Soft savings of $90K, Customer value of change = $800K

Major Encumbrance Permit Improvements
• 64% reduction in total touch time for dumpster permit processing
• 33% reduction in billing turnaround
PW Engagement Index increased faster than Citywide.

PW is seeking a 10-point increase over the 2011 index of 12.1.
Upper left quadrant are items for priority response.

PW has responded by:
• Road to Excellence training and feedback sessions (addresses 1, 2, 5)
• Requested individual training plans for performance evaluations (addresses 1, 2)
• Rapid Improvement Events/Workshops/Greenbelt Trainings (addresses 1, 2, 6)
• Employed RIGHT MANAGEMENT TRAINING and PRE-SUPERVISORY TRAINING to assess management and create individual improvement plans (addresses 1, 2)
• Began review of employee recognition programs to gather feedback and seek out improvements (addresses 2)
• All of PW is higher than the Career Service measure.
• Heat Map indicates that greatest retirement eligibility lives within the non-operational areas of the department.

• Goal to bring into line with City averages
The Professional, Engineering, and IT classes will be areas of the greatest proportion of turnover in the next 5 years.

Departmental Response:
  - Renewed focus on written procedures or, in the language of Peak Performance, Standard Work.
  - Standardization of processes and cross-training
  - Addition of training plans to Performance Reviews
  - Seeking alignment of staff requirements to Strategic Plans
Public Works recognizes the new purchasing ordinance and fully supports General Service’s efforts in improving existing purchasing functions and in incorporating this new ordinance.

PW has taken steps to maintain its compliance and provide bidders/proposers with information to support responsiveness and successful bids.
• Kids
  – Bicycle and Pedestrian Education Program Grant

• Safety Net
  – Lowry Fire Station Construction complete
  – Zonar and Drivecam Technology Investment

• Customer Experience
  – Paving Goals – 99.5% of 2013 Paving goal met (363/365 miles)
  – Wastewater Billing – Choice of paying in 1 or 2 installments
  – 5 of 12 Department Value Streams are seeking process improvement in 2014
  – Employee Engagement Index – 2013 index is up by 3 points

• Sustainability
  – CNG Fueling Station opened 3/17/2014
  – Air Quality Citizen Satisfaction (from National Citizen Survey) increased 10% over 2012
  – Fleet Optimization – structured approach is creating effective communication across fleets and with partner agencies
  – Trenchless Wastewater Repairs
• Recycling (from National Citizen Survey) rating is down 9%
• Public Parking Citizen Satisfaction (from National Citizen Survey) amount of Public Parking was 37% in 2012 to 35% in 2013
• Process Improvement Capacity – demand is higher than supply for experienced, skilled facilitators
Next Steps:
Continue introducing innovation and training within agencies to promote continuous improvement culture.

Continue Refinement of Performance Metrics that best demonstrate progress toward strategic goals.

Fleet Analysis & Optimization (Multi-Year Implementation Program)
  – Service Center Pilot Project: Preventative Maintenance Innovation
  – Fleet Logistics Operation: Combined Safety/PW Parts Operation
  – Fleet Replacement: New 2-year Planning/Purchasing Cycle

Solid Waste Carts Delivery RIE

Project Jonah Parking Enforcement Strategy

Upcoming Important Dates:
• CFO performance budget kickoff on 07/18/2014
• Mayor budget meeting on 08/18/2014
2015 Budget Priorities will generally be within these policy/operational areas:

- Solid Waste Management
  - 2015 City Council Budget Priority
- Multi-Modal Transportation
  - 2015 City Council Budget Priority
- Parking Management
- Infrastructure Maintenance & Improvements
- Process Improvements

Jose

Budget Decision Packages are pending internal submission and review.