Where we’ve been...

• Conducting design to understand feasibility to support the LPA decision

• Exploring design scenarios and fundamentals to learn the issues and opportunities

• We’ll have a realistic project that we can step through in detail in the summer

• Want to engage you in the context and complexities we’ll face together
take something big and break it down...
design team working sub-segments
take something big and break it down...

high-level contextual classification

interfaces with the legacy system

~SE 8th

passes through the gridded streetcar era

~SE 80th

traverses the five-lane suburban arterial environment

integrates with the downtown core

~SE 190th
the same is true for stations...a simplifying typology emerges
So, why a design primer?

- Overview of the context and the complexities
- Uncover some of the difficult balancing acts
  - Station placement and impacts
  - Multimodal accommodation and access
  - Range of costly but non-critical items
- Or, said another way...
  - Safety
  - Accessibility
  - Equity
- Share information
- Answer your questions
Building Blocks and Basics

- Buses hold more people
- Less time spent stopped
- Move faster through traffic

- Stop less often
  - 1/6 mile or tighter
  - 1/3 mile average
- Stop for shorter amount of time
  - Level boarding
    - Less kneeling
  - All door boarding
    - Faster for all
- Get to and from the stop faster
  - Bus remains in lane
    - No merging
  - Stations at far side of traffic light
Building Blocks and Basics

- Buses hold more people
- Less time spent stopped
- Move faster through traffic

- Traffic Signal Priority
- Corridor Wide
- Key intersections
- Business + Access to Transit Lanes
- Major intersection approaches
- Far side and near side stops
- Queue Jumps
- Utilize shared transitway
Design Assumptions for BRT station infrastructure:

• Hop FastPass will be available at all 3 doors of the BRT vehicle
• Two entries (at least 1 accessible) to be provided to each platform
• Allow for ADA loading with ramp and cash fare at Door 1
• Focus ADA loading at Door 2 (with bridge plate) for ALL stations
  – Will test level of impact on inner Division, orange line and the Mall
• Variation in ADA boarding/alighting to be tested/avoided
  – cash fare payment from door 2 loading to be explored
• No fiberoptic connection will be provided
  – therefore no CCTV/financial transactions
Design Assumptions for BRT station infrastructure:

• Station infrastructure will be designed to serve the 60’ fleet ONLY
  – will not necessarily serve 40’ fleet with door 1 ramp deploy and bikes on front

• Platform width shall be 10’min and 12’ preferred
  – 600sf average platform area adequate to serve passenger load with headways projected

• Platform height shall vary from 6” at Door 1 to ~11” at Door 2 and 3
  – Flexibility preserved into Final Engineering for fleet procurement

• Bicycles shall be on-board and will enter/exit at door 3
  – cash fare will require internal circulation

Hardened
15 Platforms
• Used where there is no bike lane or where bus can “take” bike lane
• Used where ROW and remaining sidewalk are wide enough to face of building

Sidewalk
33 Platforms
• Primarily Inner Division Streetscape area and Downtown Portland too
• May have to investigate options with reversed shelter orientation due to built constraints
Community
• Deliver the Agency/Partner/Community’s first BRT project
• That is 14 miles long with ~40 stations
• In a corridor that is rife with challenges
• For $175 M total project cost – hard cap
• On an accelerated design and construction schedule
• In a community that needs it yesterday
• In a region that needs more of it tomorrow
CONTEXT
TRANSFORMATION
BALANCE
INCREMENTALISM
CONTEXT...and its consequences
fragmented and discontinuous transportation system
main arterials are the ONLY elements of continuity
so, everyone for every purpose relies on them
because often, this is the only direct way to get around
workhorse corridors in the old paradigm and new
with significant and diverse transit usage patterns
building the ladder of service/modal hierarchy
land use characteristics are just as varied...

- Former county or un-incorporated land with **little regulation and urban services**
- Variety of uses and frontage types from a variety of development eras – **no consistent form**
- Diverse buildings, **diverse uses**, diverse communities
- Single family rural residential, carpark multifamily, business, auto-centric, mobile homes, flag lot development, new housing types
- Code adoptions and ideas call for transformation but currently lack the vision for the “whole” place
...and along comes transit and TRANSFORMATION
everybody wants everything for everyone at all times, now...
Improved **pedestrian** environment
- Along the corridor
- To/From the corridor
- Crossing the corridor

Improved **cycling** environment
- Along the corridor
- To/From the corridor
- Crossing the corridor

Improved **transit** environment
- Speed
- Reliability
- Safety
but we’ve got to calibrate the magnitude and speed of transformation

• don’t want to eliminate access to homes or businesses
• don't want to limit this community’s overall mobility
• don’t want to impinge on this conduit of economic vitality
and we may not want to sink our precious resources into other factors
...so let's talk about BALANCE
Platform Placement

- Minimize removing driveways
- Avoid utility relocation
- Align with existing crossings
- Avoid impacts and acquisition
- Avoid triggering turn prohibitions
between many rocks and hard places...
- Turning movements
- Cycle separation

Cross Section Swaps
Crossing Proximity

- Existing minor signals
- Existing major signals
- New signals
- HAWKS
- RRFB
sometimes bigger solutions are warranted
and other considerations must be balanced...
can we define the right INCREMENT of change?
• Safety is critical and immediate change is needed
• Want better service but not displacement
• Expend the limited funds on the right features for people
• Transit dollars come with performance strings attached
• Want transition and transformation of transport/land use
• But have to balance that against the impacts now
Discussion