TRAFFIC CONTROL PLANS UNIT

In the Early Days of Traffic Control...

Today, Things Are a Bit Different...

WHO WE ARE...

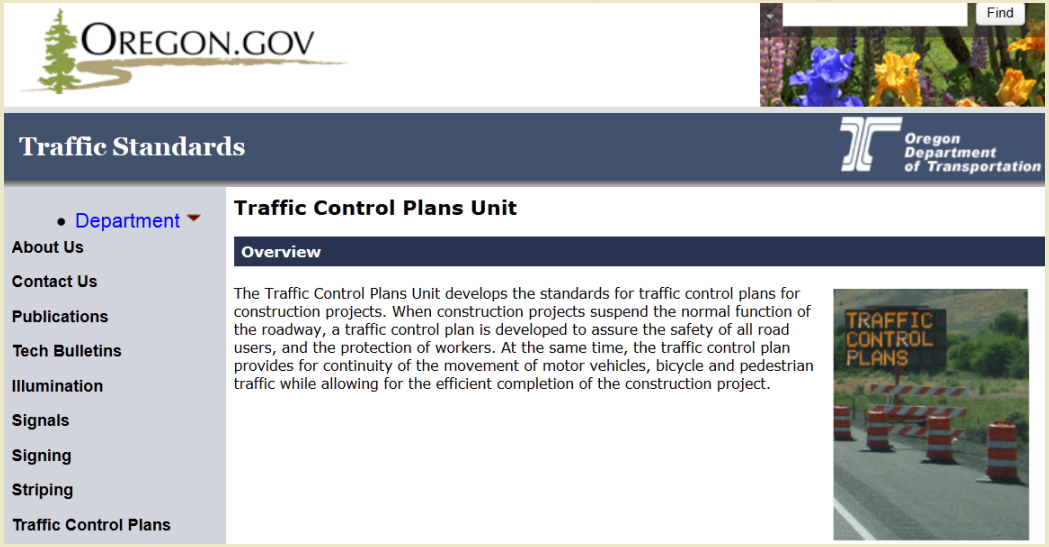
- **Scott McCanna, P.E.**
  - *Traffic Control Plans Engineer*
  - *Started with ODOT in May, 1991*
  - *Graduate of University of Portland – Go Pilots!*

- **Justin King, P.E.**
  - *Traffic Control Plans Standards Engineer*
  - *Started with ODOT in May, 2010*
  - *Formerly with Washington State DOT*
  - *Graduate of Oregon State University – Go Beavs!*

- **Matthew Wilson, E.I.T.**
  - *Work Zone Traffic Analyst*
  - *Starting May, 2015*
  - *M.S. Graduate of Arizona State University – Go Sun Devils!*

WHERE WE ARE...

- **Technical Services Branch**
  - *Traffic-Roadway Section*
  - *Technical Leadership Center (TLC) Building*
- **Address:**
  - *4040 Fairview Industrial Dr. SE*
    Salem, OR. 97302
- **TCP Unit Website:**
  - *www.oregon.gov/ODOT/HWY/TS/pages/traffic_control_plans.aspx*



OUR CUSTOMERS...

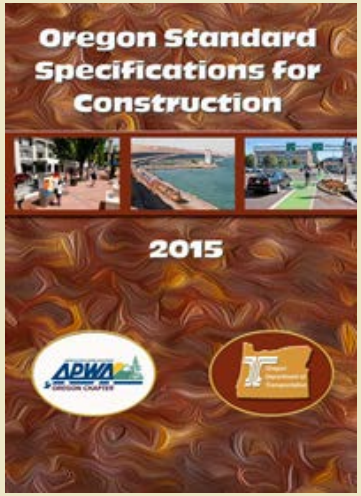
- **ODOT Staff**
  - *Region Technical Centers – Designers, Spec Writers*
  - *Region Construction Project Management staff*
  - *Technical Disciplines – Bridge, Roadway, Traffic, OPL, Research*
  - *District Maintenance Offices*
  - *Director's Office and Management Leadership Teams*
- **FHWA – Oregon Division and D.C. Headquarters**
- **Engineering Consulting firms**

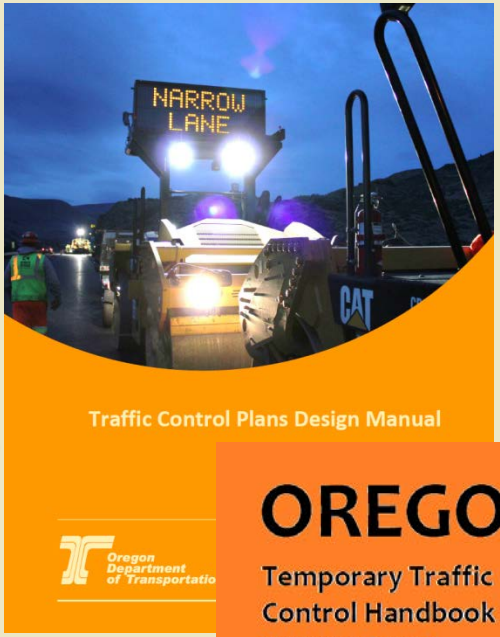
OUR CUSTOMERS...

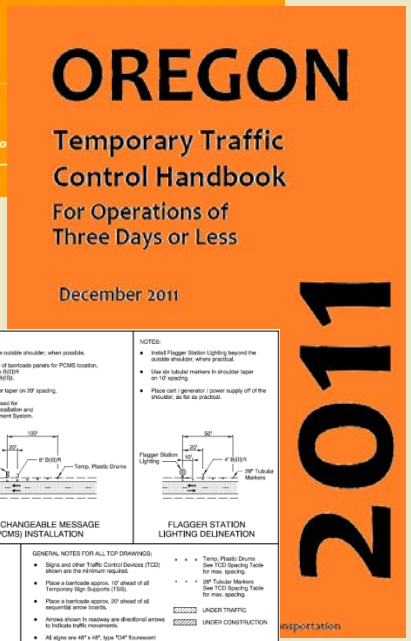
- **Work Zone Safety and Research Organizations**
  - *Transportation Research Board (TRB)*
  - *American Road and Transportation Builders Assoc. (ARTBA)*
  - *American Traffic Safety Services Assoc. (ATSSA)*
  - *AASHTO, NCHRP, Texas Transportation Instititute (TTI)*
  - *Universities and Research Consultants*
- **City & County Public Works agencies, APWA**
- **Highway Construction Contractors, Utilities**
- **Members of the Public, Special Interest groups**

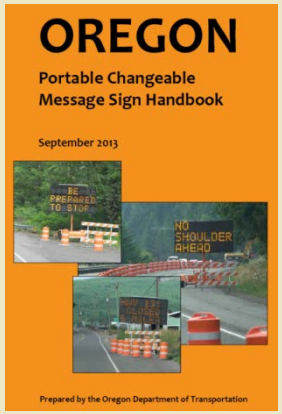
WHAT WE DO…

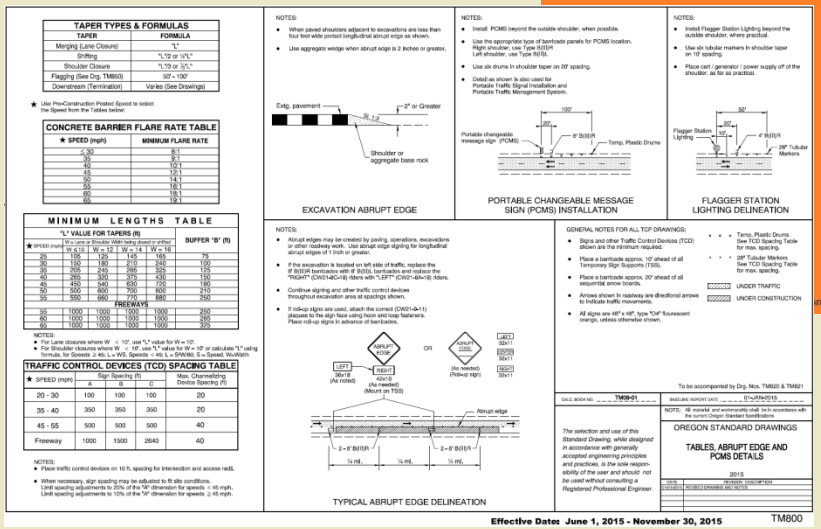
- **TCP Standards and Practices**
  - *TCP Design Manual*
  - *Oregon Temporary Traffic Control Handbook (OTTCH)*
  - *Oregon Temp. Traffic Control Standard Drawings (TM800) & Standard Details*
    - *ODOT Standard Drawings website*
  - *Standard Specifications – Sec 00220 & 00225*
    - *ODOT Specifications Unit website*
  - *PCMS Handbook*
  - *TCP Cost Estimator*











WHAT WE DO…

- **Traffic Control Devices & the *Qualified Products List***
  - ***Dean Chess, QPL Manager, and Justin King – TCP Standards Engineer, together develop, maintain a robust QPL***
  - ***Research new Products and Materials for WZ applications***
  - ***Develop new Categories and Product Review Guidelines***
  - ***Conduct Product Evaluations and field demonstrations***
  - ***Correspond and meet with Manufacturers, Suppliers and Contractors to optimize Products on QPL***
  - ***ONCE THAT's DONE…***
    - ***New Pay Items***
    - ***New Specification language***
    - ***New Standard Drawings or Details***
    - ***Update TCP Design Manual and relay info to clients***

WHAT WE DO…

WHAT WE DO...

"R

"Portable Rumble Strips"

WHAT WE DO...

ODOT-Specific Temporary Signs

WHAT WE DO...

Training and Information Sharing

- *2-Day Traffic Control Plans Design Workshop*
  - *Twice Annually – April and October*
- *Work Zone Traffic Analysis – Coming (back) Soon!*
- *Presentations – Work Zone Safety and Temporary Traffic Control:*
  - *Conferences and Workshops – Oregon & Nationally*
  - *ODOT Design, Construction and Maintenance staff*
  - *Driver Education Instructors, School Crossing Guards*
  - *Law Enforcement agencies and Judges*
  - *Oregon Trucking Association (OTA)*
  - *Associated General Contractors (AGC) or Oregon*
  - *Oregon OSHA, Community Service Assoc.*
  - *City and County agencies, APWA Members*
  - *Utility, Landscaping, and other companies*

WHAT WE DO...

- **Temporary Speed Zone Reduction Requests**
  - *Analyze and Recommend temporary speed zones*
    - *Form available on TCP Unit website*

- **Project-Specific Special Provision Concurrence**
  - *Per Technical Bulletin TSB12-01(B)*

Section 00220 **Section 00225**

- **TCP Development Assistance**
  - *Regions, Maintenance, Local governments, others*
  - *Provide perspective, Make recommendations*
  - *Introduce Design Resources and share Experiences*

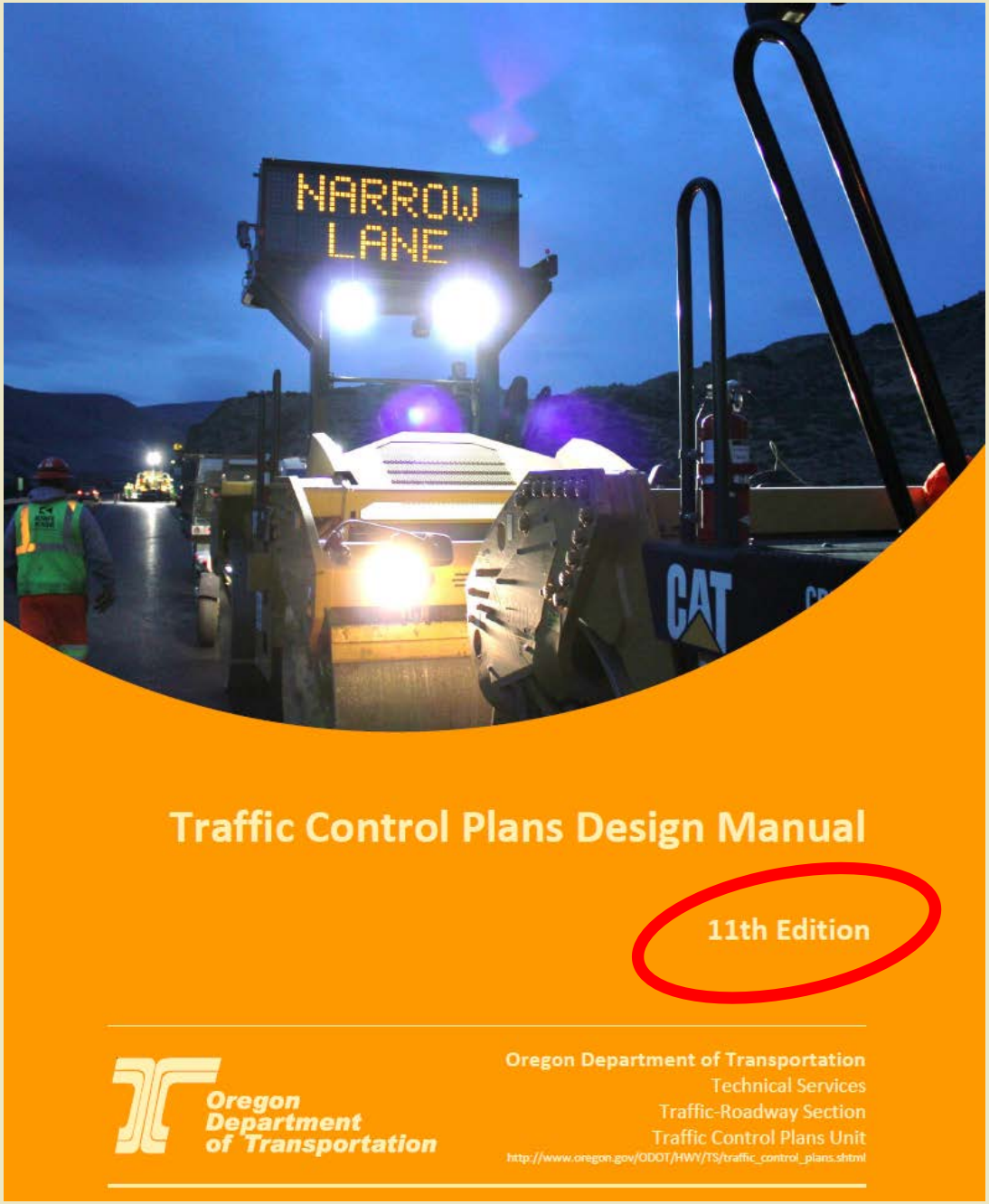
WHAT WE DO...

Annual Statewide Work Zone Reviews

- *Since 2002, Reviews provide many Benefits:*
  - *Quality Assurance strategy to improve TCP Design Standards, Practices and Procedures*
  - *Expose Designers to field implementation of their designs*
  - *Valuable data used to prioritize TCP Unit efforts*
  - *Hundreds of photos used for future presentations, training*
  - *Inspires new Devices, Technologies, and Techniques*
  - *Communication channels open between TLC & PM Offices*
  - *Exchange ideas, info with other State DOTs and colleagues*
- *Review 40-60 Work Zones per summer*
- *Year-end Summary Report*
- *Present Report to Region Safety and Annual PM Meetings*
- *Summary Report part of Oregon's FHWA Process Review*

WHAT'S NEW in the TCPU

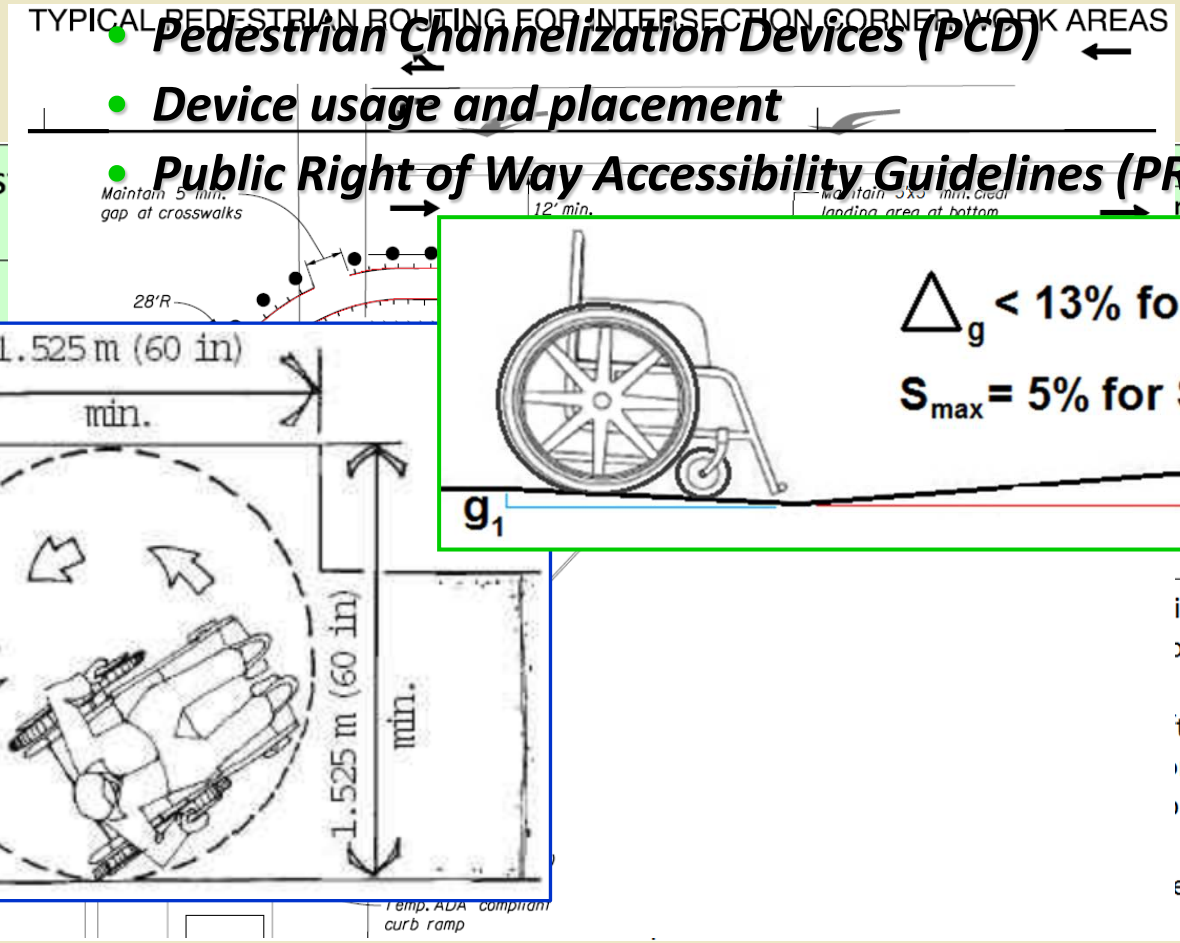

ROAD
WORK
AHEAD


NARROW
LANE
CAT
Traffic Control Plans Design Manual
11th Edition
Oregon Department of Transportation
Oregon Department of Transportation
Technical Services
Traffic-Roadway Section
Traffic Control Plans Unit
http://www.oregon.gov/ODOT/HWY/TS/traffic_control_plans.shtml

TCP DESIGN MANUAL

NEW DEVICES and ENHANCED GUIDANCE

- ***Bicycle and Pedestrian Accommodation***
  - ***Pedestrian-specific Traffic Control Plans***
  - ***Pedestrian Channelization Devices (PCD)***
  - ***Device usage and placement***
  - ***Public Right of Way Accessibility Guidelines (PROWAG)***



TCP DESIGN MANUAL

NEW DEVICES and ENHANCED GUIDANCE

- ***Radar Speed Trailers***
  - ***New to the QPL. New Pay Item & Spec language***
  - ***May be included in TCP, as desired***
  - ***Two <u>required</u> for Paving Operations (see TM880)***

TCP DESIGN MANUAL

NEW DEVICES and ENHANCED GUIDANCE

- *Temporary Barrier Screens*
  - *Replaces plywood/steel pipe designs*
  - *Lightweight, 1-piece, Crashworthy, LDPE plastic*

TCP DESIGN MANUAL

NEW DEVICES & ENHANCED GUIDANCE

- *Portable Traffic Management Systems (PTMS)*
  - *Specification language updated for 2015 Book*
  - *New guidance for function and use in a TCP*
  - *Recommended for Projects in need of mitigating:*
    - *Construction Vehicle ingress warning from work site*
    - *Frequent back-ups, End of Queue traffic crashes*
    - *Real-time Travel Info through WZ to minimize delays*

TCP DESIGN MANUAL

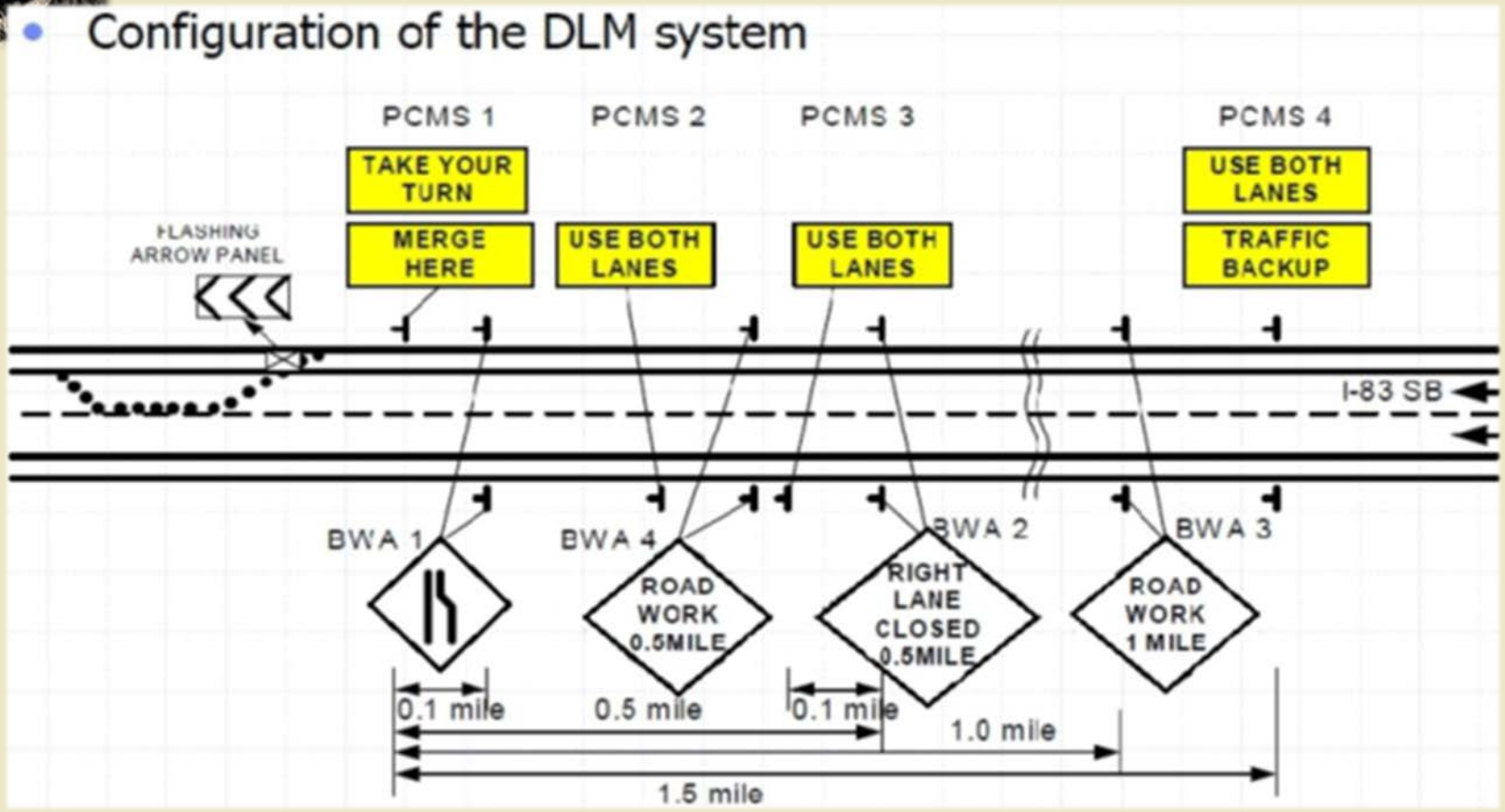
NEW DEVICES & ENHANCED GUIDANCE

- *Portable Traffic Management Systems (PTMS)*

TCP DESIGN MANUAL

- **Portable Traffic Management Systems (PTMS)**
  - ***Future Functions and Additional Advantages***
    - ***Late and Early Lane Merge Systems***

- Configuration of the DLM system



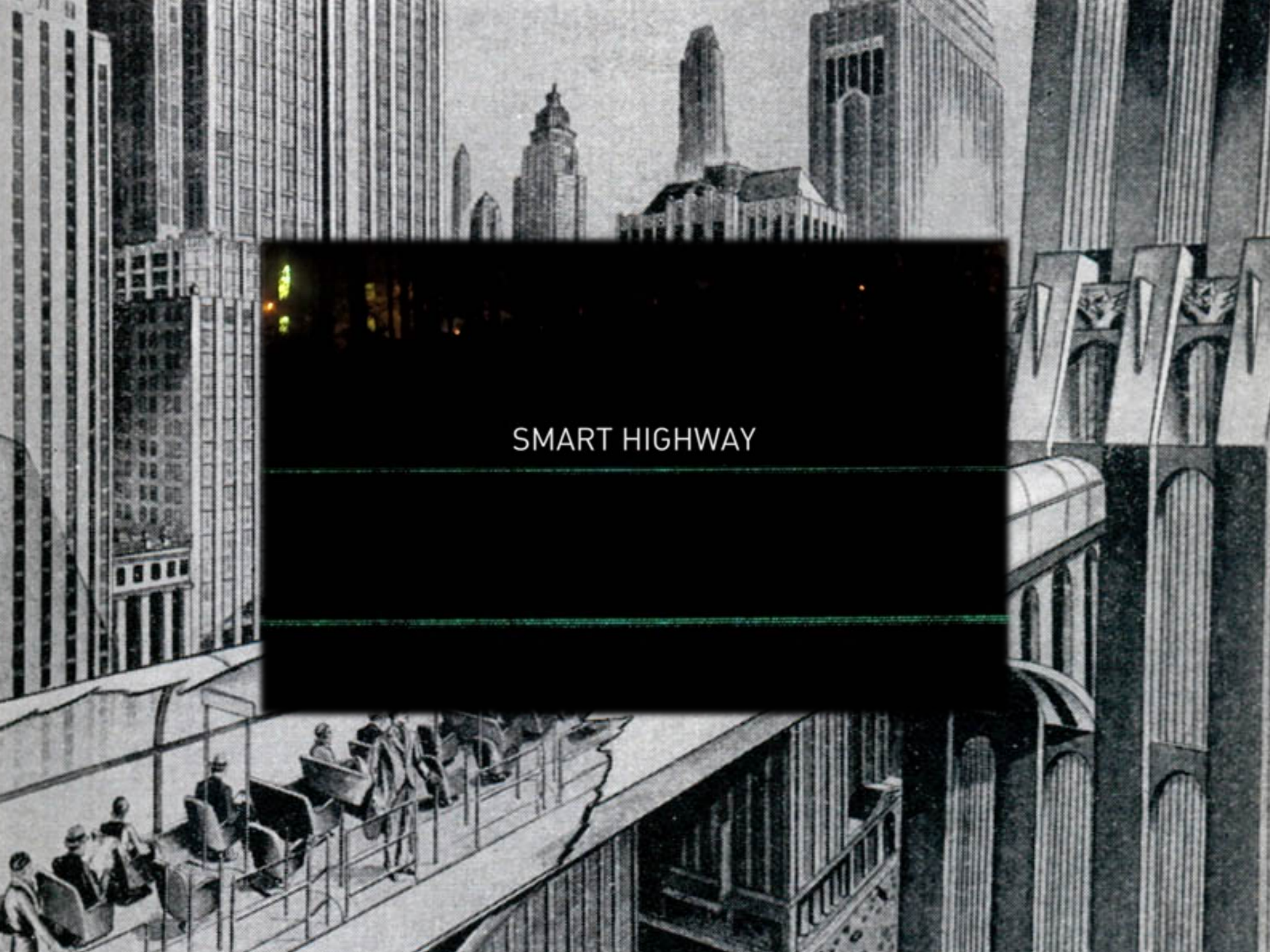
TCP DESIGN MANUAL

POSITIVE PROTECTION

- *Enhanced clarification of the Concept*
- *Detailed explanation of Positive Protection measures*
- *Emphasis on early consideration & systematic approach*
- *Factors involved in decision-making process*
  - *Included a "Device Selection Decision Support" matrix*
  - *Developing "Decision Tree" for comprehensive evaluation process*

Table 3.1 – Positive Protection Device Selection Decision Support

Positive Protection Device	Most Appropriate Projects and Locations For Use	Relative Costs and Benefits	Other Considerations
Portable Concrete Barriers	Longer duration stationary projects; areas with limited room for barrier deflection such as bridges and tunnels; drop-off conditions; worker exposure concerns	Substantial installation and removal costs; provide greater benefit on stationary activities compared with those that move such as pavement resurfacing	Require space for placement equipment; contractor access to work area; protection for exposed barrier ends
Ballast Filled Barriers	Low-speed urban projects; projects with limited space for concrete barrier placement equipment; areas with room for larger deflection, if needed (some water filled barriers are designed to minimize deflection)	Potentially lower installation and removal costs as they can be placed and removed by hand when unfilled	May be filled with water or sand; consider ballast material transport options, handling, and disposal, along with potential temperature issues (mitigated with environmentally sensitive anti-freeze)
Steel Barriers	Short-duration projects such as pavement rehabilitation and maintenance; areas with room for larger deflection (if anchored, deflection can be minimized). May also be used on long-term projects	Lower transport costs due to their lightweight, stackable design, quick installation	Lateral displacement is generally 6 to 8 feet (depending on impacting vehicle); may be anchored to minimize deflection
Moveable Concrete Barriers	Longer duration projects; projects where the traffic control configuration is changed frequently (where lanes are opened and/or closed on a daily or nightly basis)	Substantial cost and effort to install; provide benefit on projects where lane configuration changes often	Reconfiguration of the barrier can be accomplished quickly and safely; may be used to optimize directional capacity
Shadow Vehicles with TMAs	Mobile, short-duration, and short-term stationary projects such as striping, signal maintenance, vegetation control, pavement patching and repairs, and joint and crack sealing; locations where other barriers may be impractical due to the mobility of the operation	Costs include those for truck, attenuator, and driver – undamaged attenuator may be reused on other projects to spread costs	Adequate roll ahead distance is required to protect workers; consider the potential for motorists to access area between shadow vehicles and workers
Vehicle Arresting Systems	Longer term projects where the installation is used over an extended period, such as nightly closure of a roadway over an extended period; used to close an entire area and stop errant vehicles from intruding	Fixed end anchors require substantial effort to install; temporary anchors provide a lower cost solution for short-term applications	Requires adequate buffer space to allow vehicle to slow to a stop; consider work vehicle access to the closed area


SMART HIGHWAY

FOR THE FUTURE...

- **Bicycle Channelizing Ideas & Devices**
  - *Encourage cyclists to stay out of hazardous areas*
  - *Provide separate channelization for bicyclists*
  - *Better delineate preferred pathway for cyclists thru WZ*

FOR THE FUTURE...

- **Bicycle Channelizing Ideas & Devices**
  - *Encourage cyclists to stay out of hazardous areas*
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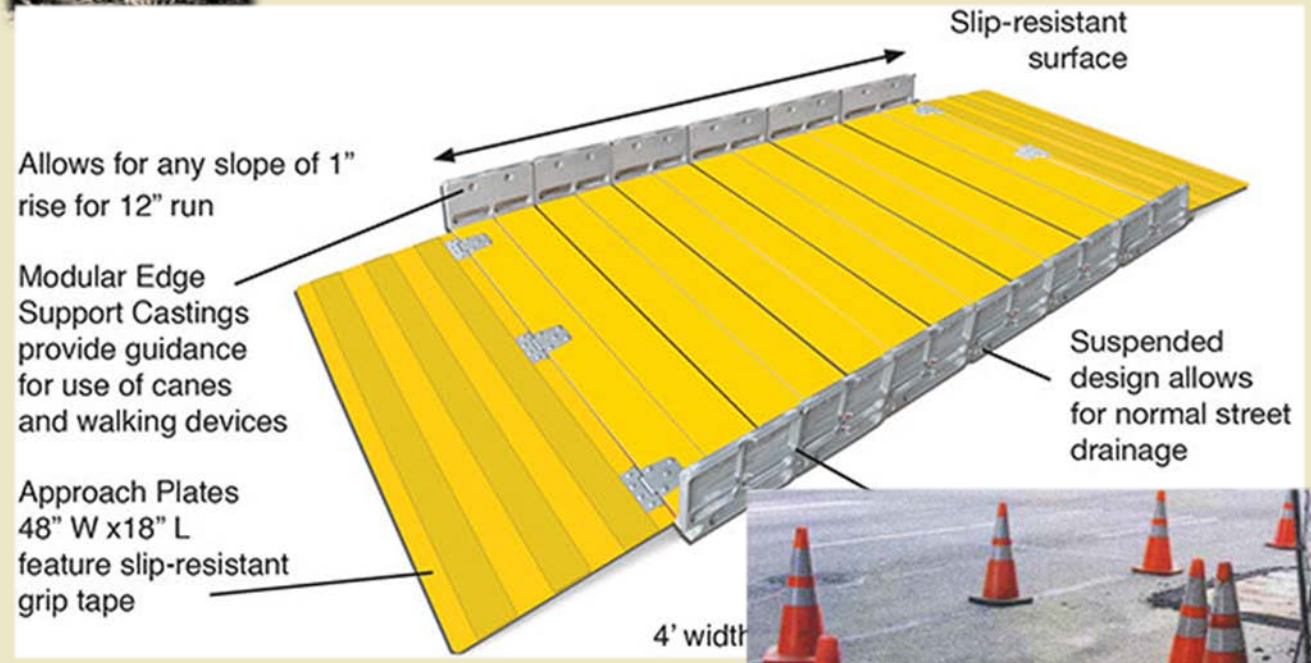
FOR THE FUTURE...

- **Temporary Pedestrian Accessibility**
  - ***Portable, adjustable Sidewalk Ramps***
  - ***Automated Pedestrian Information Stations***



- ***Used to replace non-compliant ramps***
- ***More portable/adjustable than AC/PCC ramps***

CONTACT US

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  - *Traffic Control Plans Standards Engineer*
  - *justin.s.king@odot.state.or.us*
  - *(503) 986-3584*

Thank You!