

Local Project Administration Certification Course

DESIGN & DELIVERY



Project Schedule

❖ To deliver a project successfully:

- Set realistic schedule based on activities, durations & milestones, using **Critical Path Method**
- Major milestones:
 - Kickoff
 - **Preliminary Design Report** (PDR) ~ 60% complete
 - Public Meeting / Formal Public Contact
 - **Plan Impacts Complete (PIC)** ~ 90% complete
 - National Environmental Policy Act (NEPA) Complete
 - Right of Way Certified: **12 to 14 months after PIC**
 - **Final Plans, Specifications, & Estimate** (PS&E)

Preliminary Design Report

❖ PDR must include:

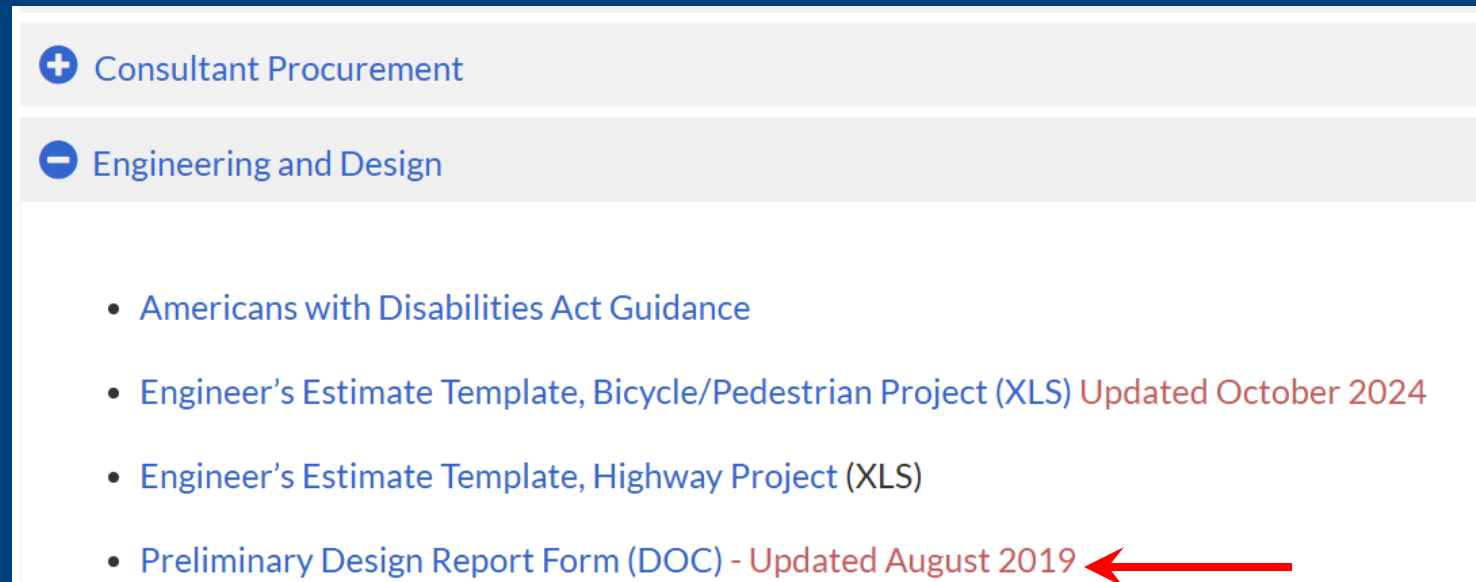
- **PURPOSE AND NEED**, clearly defined
- Narrative of chosen design
- Alternatives evaluated
- Anticipated impacts
- In-depth discussion of decisions/exceptions
 - MaineDOT policies for ADA, Complete Streets, etc.
- **UPDATED CONSTRUCTION ESTIMATE**
 - Based on the preliminary engineering

Preliminary Design Report

❖ PDR Format:

Form is online: www.maine.gov/mdot/lpa/lpadocuments/

Click on “Engineering & Design → Preliminary Design Report Form”

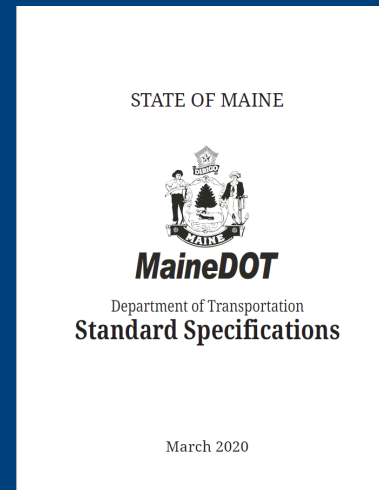
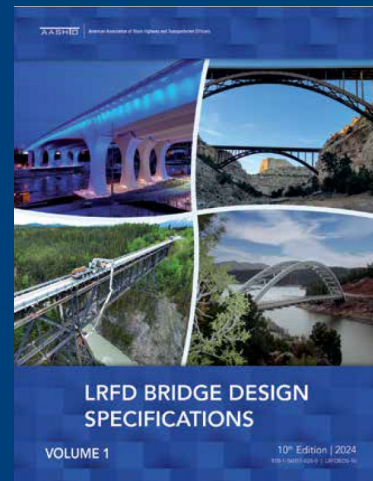
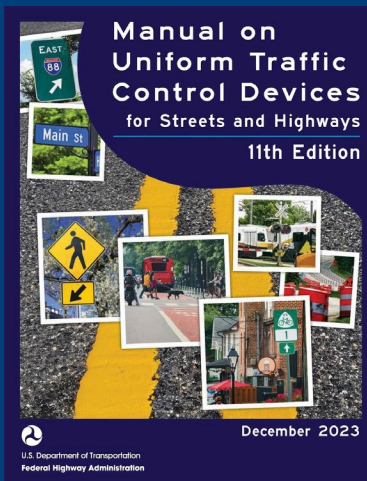
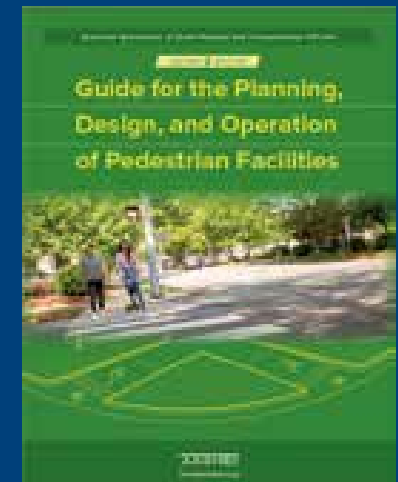
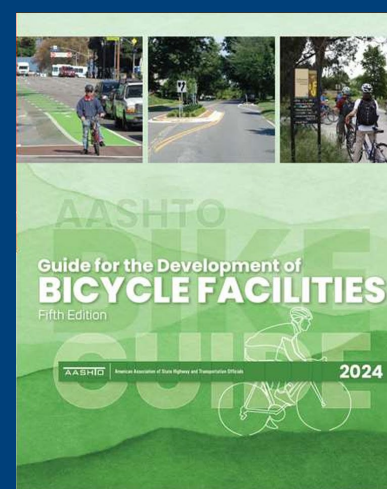
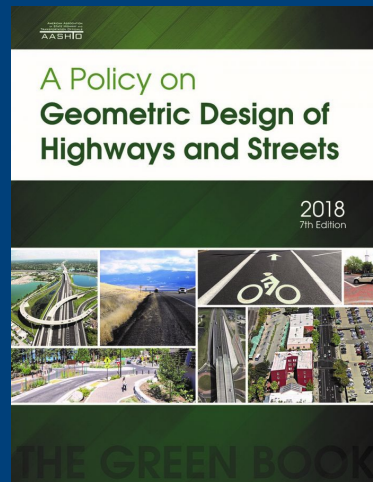
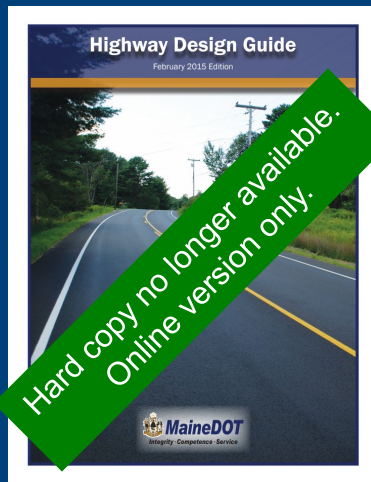


<https://www.maine.gov/mdot/lpa/lpadocuments/>

- ❖ Must be signed by highest-ranking LPA certified official
- ❖ Must be co-signed by MaineDOT Multimodal Program Manager

Design Standards

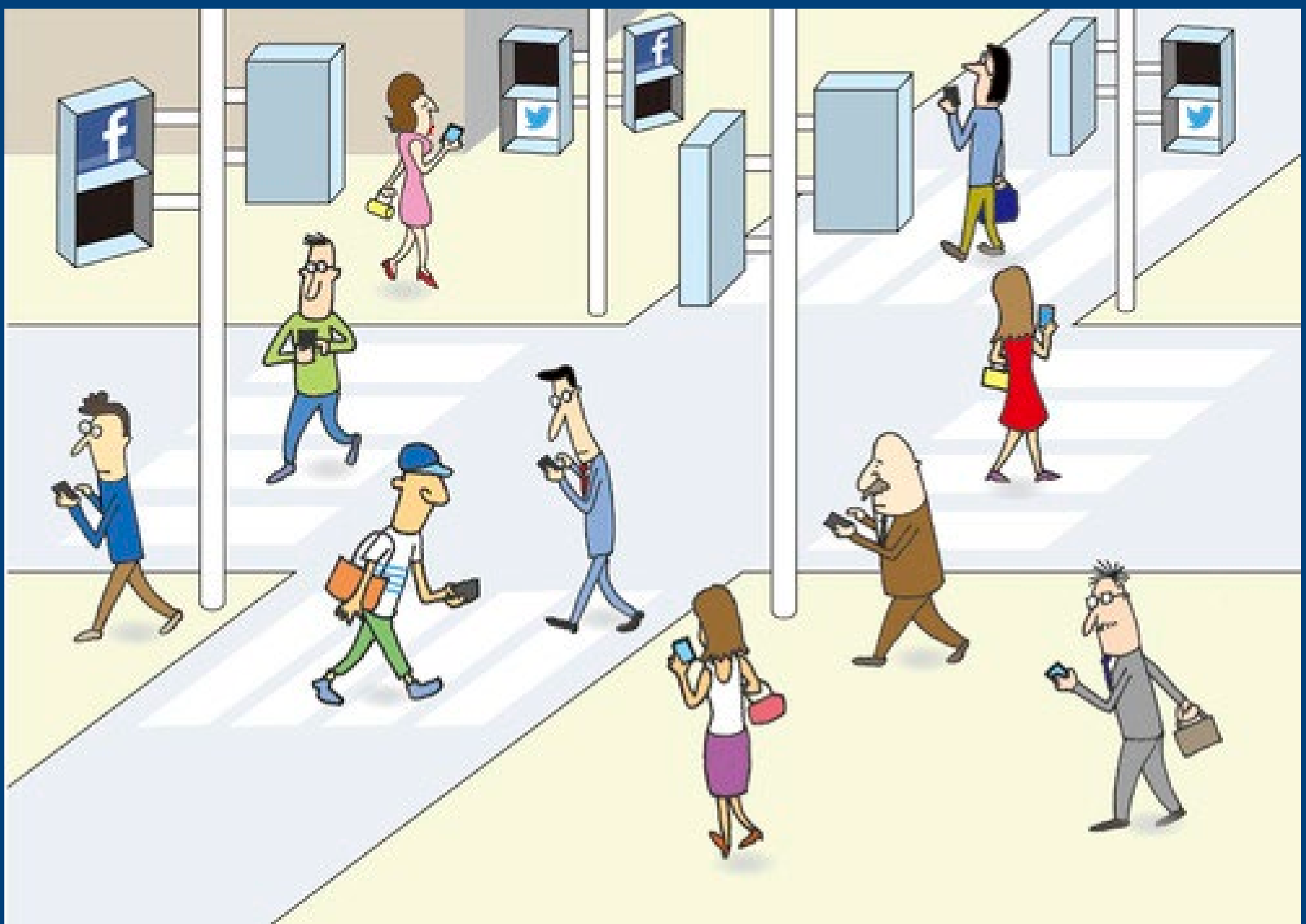
(LPA MANUAL, SECTION 3)



www.maine.gov/mdot/engineering/highway/
www.maine.gov/mdot/publications/

MaineDOT Engineering Requirements

- **Intended to provide design flexibility**
 - Complements the Highway Design Guide
- **Practical Design**
 - **Appropriate** widths for travel lanes, shoulders
 - Clear zones based on posted speeds, traffic volumes, corridor consistency, level of risk to travelers
 - By Highway Corridor Priority: 1-4 (state) and 5 (local)
- **Crosswalk Design**
- **Entrance Design**



MaineDOT Design Policies

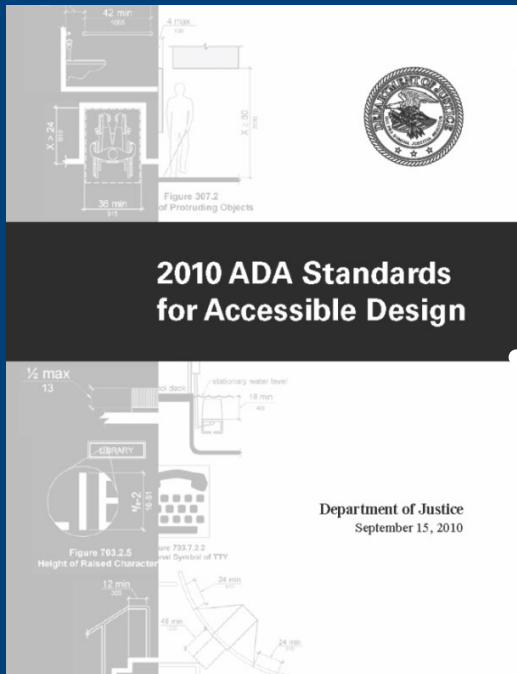
- **ADA Compliance**
 - Construction & Maintenance
- **Complete Streets**
- **Temporary Traffic Signals**
- **Guardrail & Guardrail Terminal**

Policies on the Internet:

www.maine.gov/mdot/engineering/policies/

Also, part of Highway Design Guide

Americans with Disabilities Act (ADA)



NOT an engineering standard;
– IT'S THE LAW!

<https://www.ada.gov/law-and-regs/design-standards/>

See MaineDOT ADA Compliance Policy

- When a roadway is altered:
 - Defined by MaineDOT & US DOT
- Guidance in MaineDOT's policy

- ADA will be presented in-depth later today

WHEN DOES ADA APPLY?
ALWAYS!

Complete Streets












It's actually this.
Believe it or not this is New York City



Is it this?

MaineDOT Complete Streets Policy

-  Transportation system should benefit all users
 -  Pedestrian & bicycle infrastructure
 -  Sidewalks, bike lanes, transit stops, etc.
 -  All ages & abilities
-  Where & when does this apply?
 -  New construction & rehabilitation projects
 -  Ask: Will a project accommodate safe inclusion of:
 -  Sidewalks, bike lanes, transit stops, etc.
-  Matrix provided in MaineDOT policy

MAINEDOT PDR FORM HAS NARRATIVE OUTLINE
- Must Be Discussed -

Traffic Management



TAME

Traffic Analysis Management and Evaluation

- For MaineDOT
 - Projects on system: Traffic management during construction
- Process establishes **when** and **why** to TAME
 - Initial traffic management provisions drafted by Designer/PM
 - If project is going to have a Preliminary Design Report
 - Submit request **4 weeks** before final PDR
 - If no PDR: submit request **10 weeks** before final PS&E
 - Average Annual Daily Traffic: 15,000
 - > Traffic control provisions go to MaineDOT TAMEing Committee.
 - < Certification issued with or without additional conditions

TAMEing

(Continued)

- **Doesn't Just Cover Motor Vehicle Traffic**
 - Pedestrian and bicycle passage
 - Pedestrian passage in work zone must meet the ADA
- **When Inside an Urban Compact Area:**
 - Can detour onto local roads ... but
 - Detour proposal must come from a local agency
 - Restoration of local road so-used is non-reimbursable.



Electronic Design Files

❖ If computer-aided design and drafting (CADD) files will be provided to MaineDOT:

- CADD files must meet MaineDOT's standards
- MaineDOT: Bentley Systems
 - OpenRoads Designer CONNECT (ORD)
- No translation by MaineDOT staff shall be required
 - IMPORTANT FOR RIGHT-OF-WAY PLANS (Next slide)
 - If something is wrong, **WE WILL SEND BACK THE FILE!**

Electronic Design Files

For On-System Right-Of-Way Plans

- Plans must be consistent with MaineDOT line styles
- If you use something other than MicroStation:
 - Recommend using a professional service to convert files
- Plans are used for MaineDOT to prepare RoW plans
 - These become legal recorded documents
 - Will cost you more money in the end if not done correctly
 - IF SOMETHING IS WRONG, **WE WILL SEND BACK THE FILE**
- Design based on roadway centerline
 - Don't use gutter line or curb line

Bipartisan Infrastructure Law (BIL)

Build America, Buy America Act (BABA)

- NEW INTERPRETATION – “FINAL”: “Clarifies” that an article, material, or supply should only fall within one of the following categories:
 - iron or steel;
 - manufactured product;
 - construction material;
 - materials identified in BABA: Section 70917(c) materials
 - cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives.

<https://www.federalregister.gov/documents/2023/08/23/2023-17724/guidance-for-grants-and-agreements>

Bipartisan Infrastructure Law (BIL)

Build America, Buy America Act (BABA)

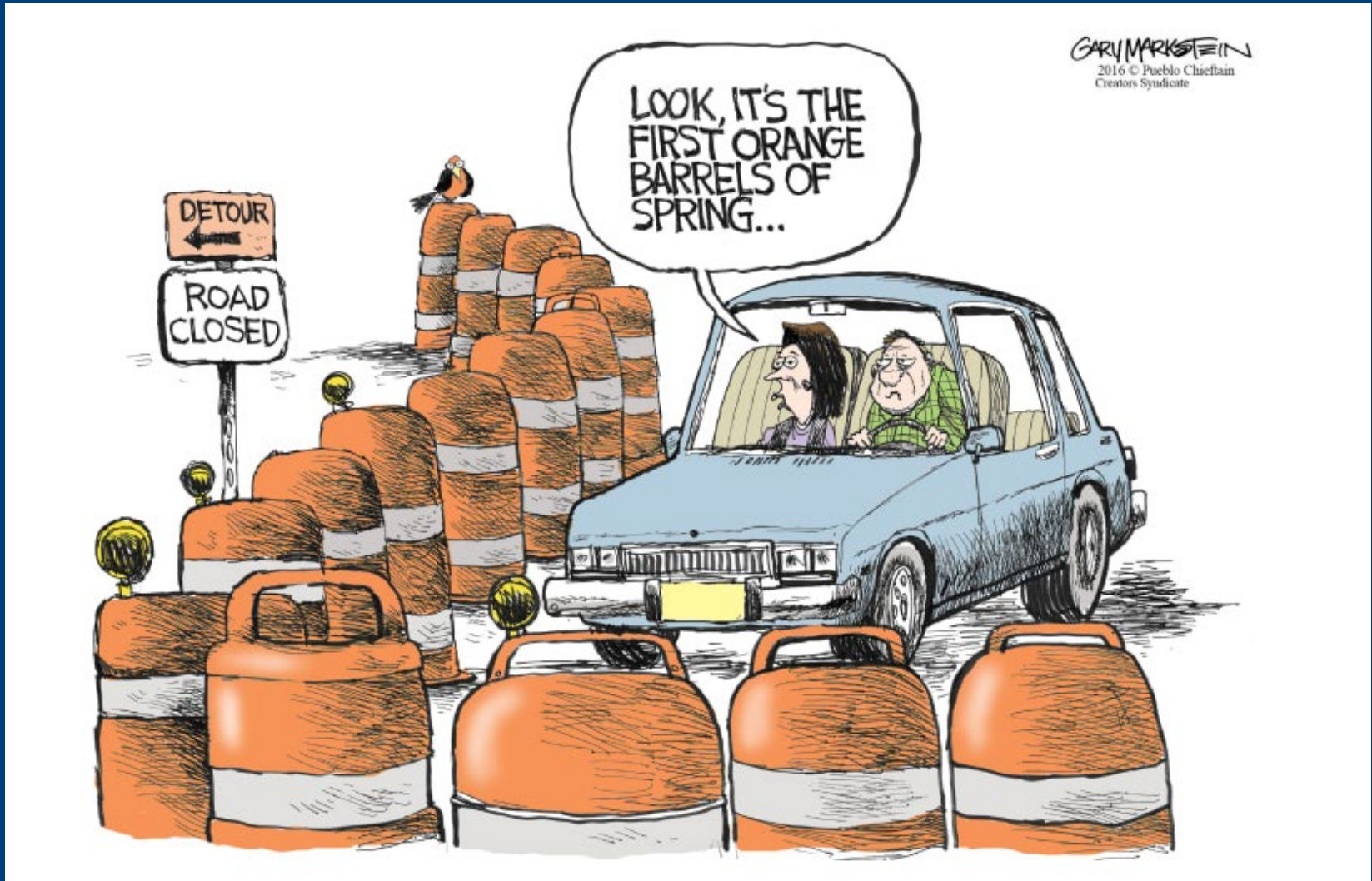
- Construction Materials: articles, materials, or supplies that consist of only one of the following:
 - Non-ferrous metals;
 - Plastic and polymer-based products;
 - Glass (including optic glass);
 - Fiber optic cable (including drop cable);
 - Optical fiber;
 - Lumber;
 - Engineered wood;
 - Drywall.

Applies everywhere in the US, except states and territories located in areas designated as part of the Pacific Islands.



<https://www.federalregister.gov/documents/2023/08/23/2023-17724/guidance-for-grants-and-agreements>

Quality Control & Assurance



Quality Control & Assurance

❖ Make QC/QA Part of Consultant Selection

- It's the **designer's** responsibility to provide QC
 - Professional engineering responsibility
- Check for construction, maintenance issues

❖ Quality Assurance

- **Municipality** (verify that design meets expectations)
- **MaineDOT** (review design at 60% & 95% complete)
 - Make sure Federal & State standards met
 - Depth of review depends on project location & scope

ULTIMATELY, THE MUNICIPALITY IS RESPONSIBLE

Final Plans, Specifications, & Estimate

(LPA Manual, Section 7)

- **Final Plans**

- Stamped by Maine P.E., as required by law
- Reviewed, approved by MaineDOT



- **Engineer's Estimate**

- Based on estimated quantities; must be in synch with plans
- Use MaineDOT item numbers, unless unavailable
- RECENT BID HISTORY

- **Certifications**

- Environmental, Utilities, Right of Way, Railroad, TAMEing

- **Final specifications**

- Stamped by Maine P.E.
- Reviewed, approved by MaineDOT



Final Plans, Specifications, & Estimate

(See checklist in LPA Manual: Page 7-9)

- **Bid Documents**

- Notice to Contractors
- Contract Agreement, Offer and Award Form
- Bonding Requirements
- Davis-Bacon wage rates (Federal)
- Electronic payroll requirements (Federal)
- Form FHWA-1273 (Federal)
- Signed Title VI Assurances (Federal)

- **Certifications to PM** (Not In Bid Book)

- Environmental (Communication 12)
- Utilities (Communication 13)
- Right-of-way (Communication 14)
- TAME (State Traffic Engineer)

**THIS IS NOT
EVERYTHING!**



Engineering Estimates are
confidential by Maine
statute 23 M.R.S.A. § 63 and
cannot be disseminated outside
MaineDOT

**AFTER REVIEW AND APPROVAL
MAINEDOT WILL PROVIDE CONSTRUCTION AUTHORIZATION**

Advertise & Award

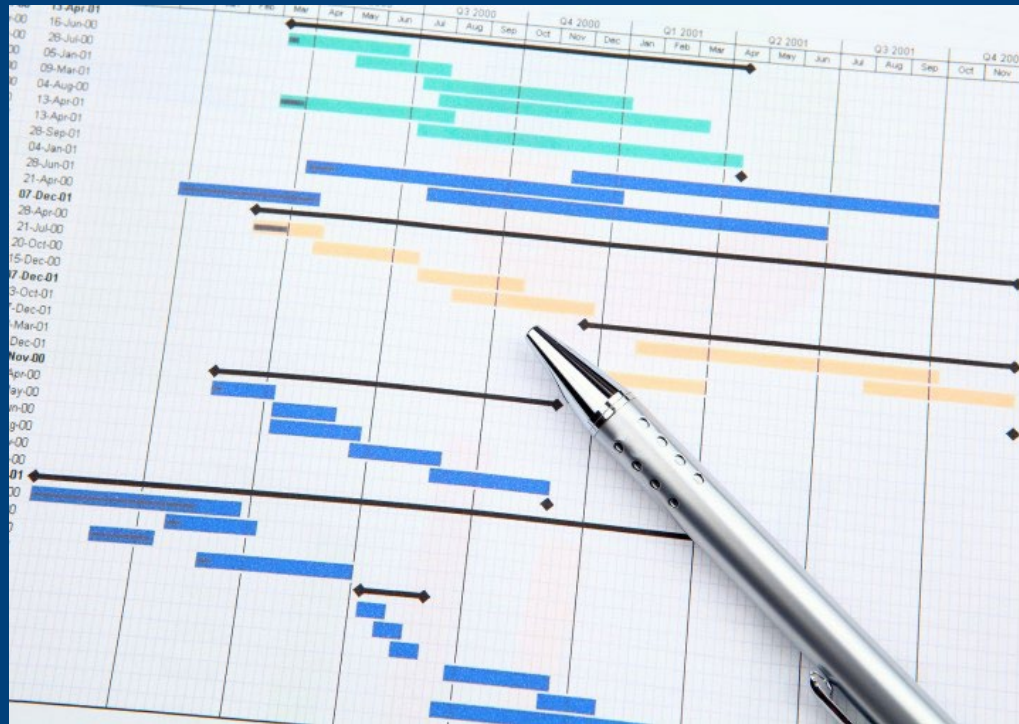
(LPA Manual, Chapter 8)

- **Advertise**
 - Public Advertise; **3 week** minimum
- **Bidding Process**
 - Answer questions in absolutes
 - Same answer to all bidders
- **Open bids publicly, review bids**
 - Check for defects: “curable” and “non-curable”
 - Award to lowest responsive, responsible bidder
- **MaineDOT**
 - Review bids & approve before award





Delivery Expectations



Setting the Schedule

- **Should be realistic**
 - Allow reasonable time for design work, environmental reviews, right of way, MaineDOT review & approval
 - Critical Path Method Is **HIGHLY** Recommended.
- **Should be set in consultation with MaineDOT**
 - MaineDOT project manager must ensure that schedule is met
- **Should be reviewed, updated periodically**
 - Project Kickoff
 - Preliminary Design Report
 - Plan Impacts Complete
- **Communicate ... Communicate ... Communicate**

Set a Realistic Schedule

TYPICAL critical path items:

- ROW activities on MaineDOT Jurisdiction Roadways
 - Plan Impacts Complete Must Be Achieved before:
 - **Title Work & Final ROW Mapping**
 - Title Work and Final ROW Mapping Must Be Completed before:
 - **Valuation**
 - **NEPA** & Valuation Must Be Completed Before:
 - **ROW Negotiations**
 - ROW Negotiations Must Be Completed Before:
 - **Acquisition**

ROW = 14 to 16 months from Plan Impacts Complete

Stay on Top of Things

- **BUDGET**



- You will be held to the funding approved and consistent with your application.
- Use latest bid price history for estimating

- **SCHEDULE**

- MaineDOT may withdraw funding if you don't advertise project within **3 years** of signing agreement.
- Set realistic milestones and plan ahead.



CHECK EARLY & OFTEN



Performance Measures

MaineDOT's goal is **80%** On-Time Delivery

- Within **30 days** of Construction Advertise Plan date

MaineDOT On-Time Delivery Rates

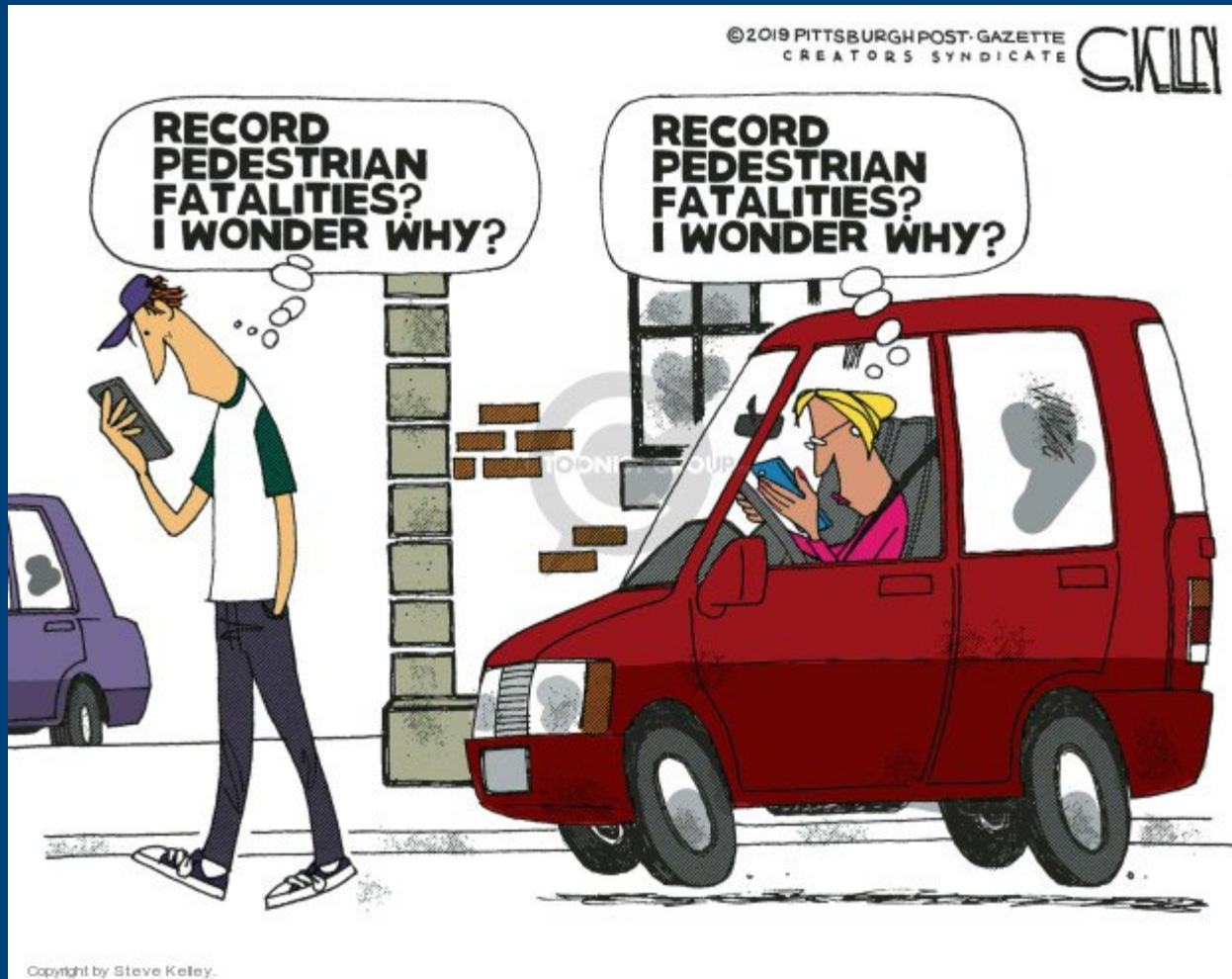
- 2020 = 95%
- 2021 = 90%
- 2022 = 92%
- 2023 = 93%
- 2024 = 80%

LPA On-Time Delivery Rates

- 2020 = 63%
- 2021 = 63%
- 2022 = 74%
- 2023 = 33%
- 2024 = 63%

MaineDOT's Overall Goal is 80%

For LPAs would like to see at least 70%



CONSTRUCTION ESTIMATES





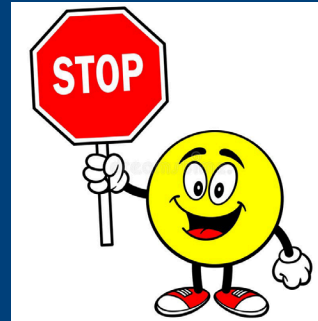
Original Contract

Grants, Grants & more Grants

- **Who Can Apply for Grants?**

- States, Counties, Towns, Indigenous American Tribes, Schools, Trail Organizations, etc.

- **Before You Apply:**



And Please Contact

Jennifer Grant, Director of Planning, or;
William Gayle, Director of Planning Outreach, or;
Regional Planner.



QUESTIONS?

