

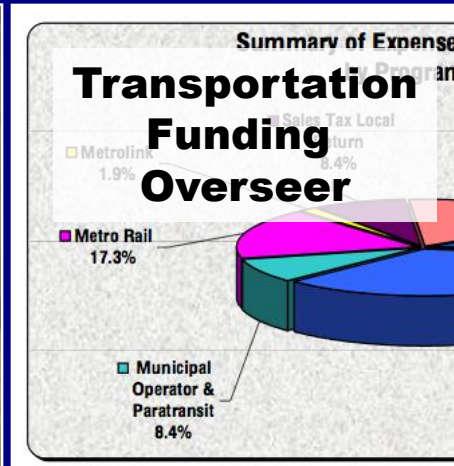
Unique Challenges of Megaproject Delivery



Bryan Pennington
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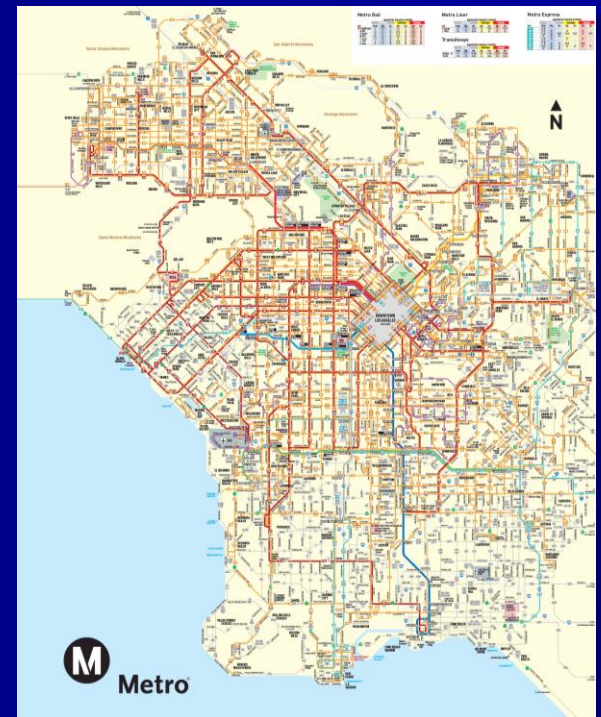


Metro is a Unique Agency



Nation's Third Largest Transportation System

- 1,433 square-mile service area (nearly 16,000 bus stops)
- Over 9,000 employees
- Nation's largest clean-air fleet (over 2,200 CNG buses)
- 450 miles of Metro Rapid Bus System
- 87.7 miles of Metro Rail (83 stations)
- Average Weekday Boardings (Bus & Rail) – 1.2 million
- Metro Freeway Service Patrol (average 25,000 motorists assisted per month)
- 513 miles of freeway HOV lanes
- 1,252 miles of Metro Bike Routes, Lanes and Paths
- Partner of 16 Municipal Bus Operators
- FY2013 Budget of \$4.56 billion



Measure R

- In November 2008, Los Angeles County voters approved Measure R by a two-thirds majority
- A projected \$40 billion was committed to traffic relief and transportation upgrades throughout the county over the next 30 years
- Measure R will help fund dozens of critical transit and highway projects
- The nonprofit Los Angeles County Economic Development Corporation estimated that Measure R would create more than 210,000 new construction jobs and infuse an estimated \$32 billion back into the local economy



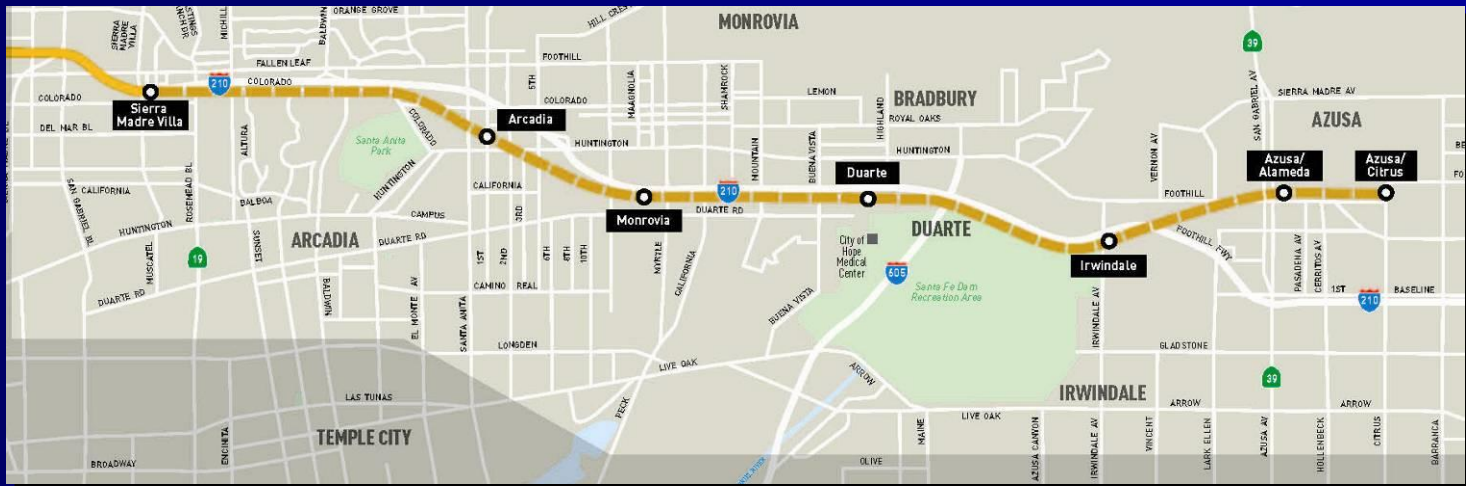
Transit Corridor Construction



Metro Gold Line Foothill Extension Program Summary



- Managed by Construction Authority, oversight by LACMTA
- Light Rail
- Opens 2016 – Phase 2a to Azusa
- 11.5 Miles (18.5 km)
- 6 Stations
- Cost: \$735 million



Exposition Transit Corridor Phase II Program Summary

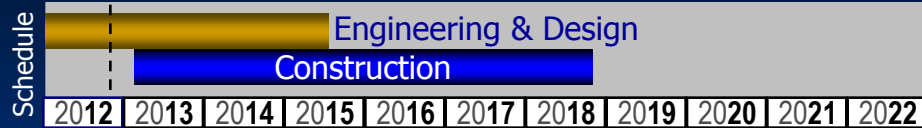


- Managed by Construction Authority, oversight by LACMTA
- Light Rail
- 6.6 mile corridor (10.6 km)
- 7 new stations
- Estimated Ridership: 64,000 daily riders from Downtown LA to Santa Monica by 2030
- Estimated Cost: \$1.5 billion
- Construction completion in 2016

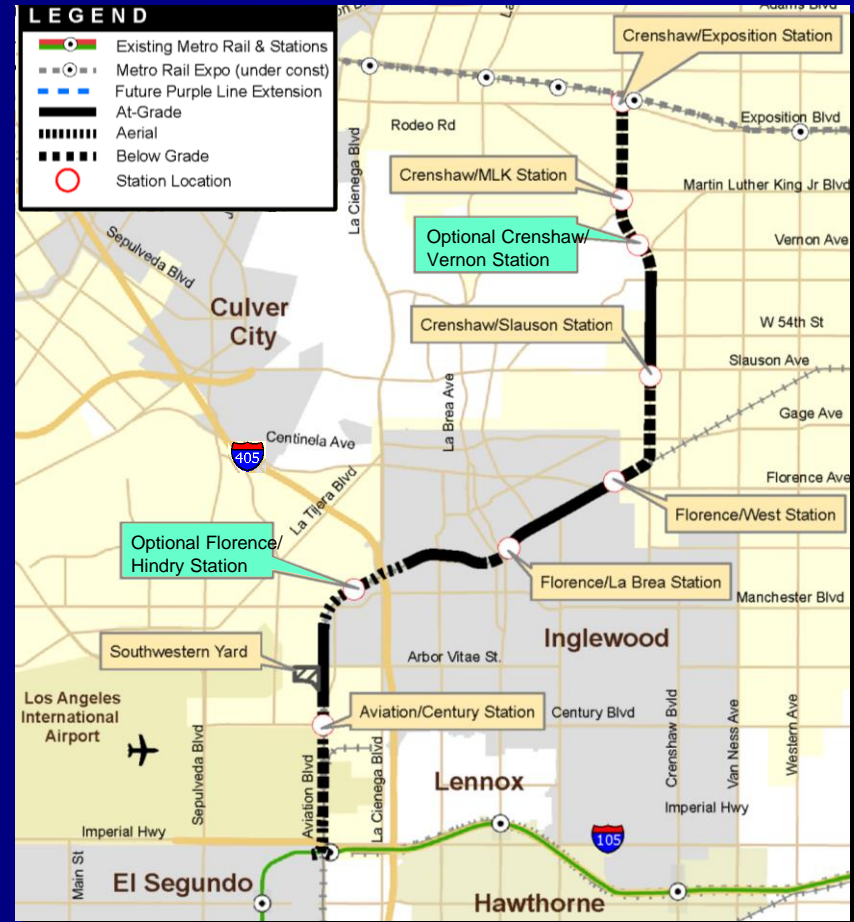


Crenshaw/LAX Transit Corridor

Program Summary



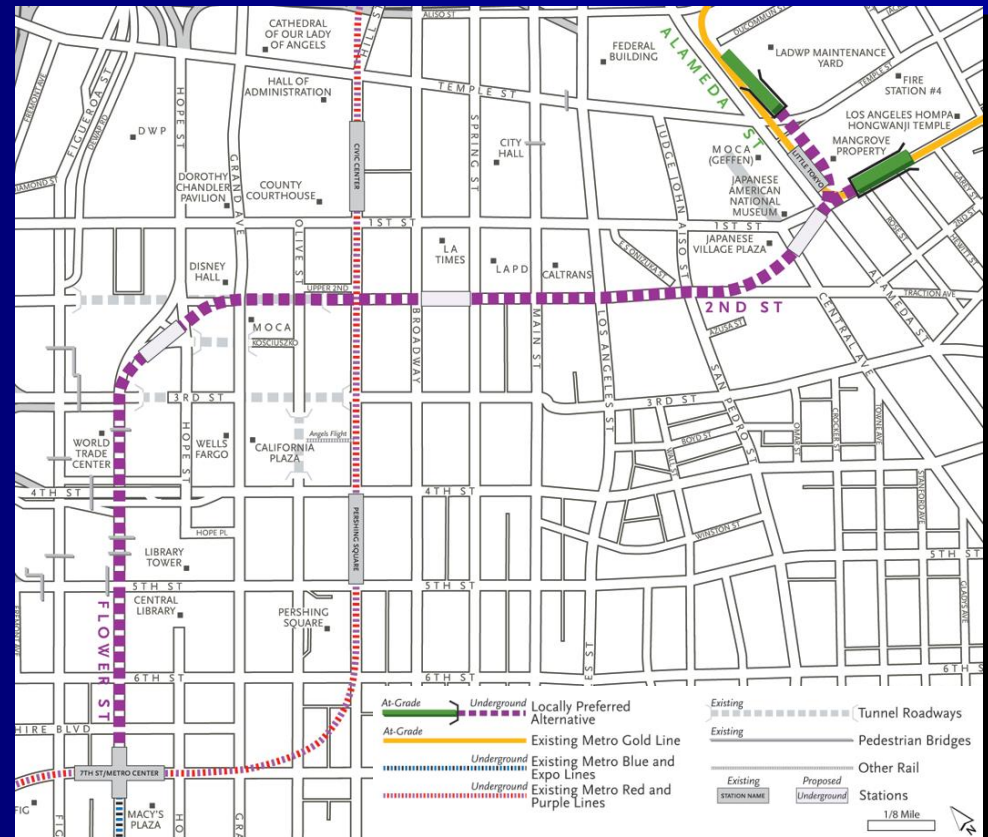
- 8.5 mile (13.7 km) Light Rail Line, at grade, aerial and underground segments
- Extends from Exposition Line to Metro Green Line
- 6 Stations
- 2 Station Bid Options: Vernon, Hindry
- Southwestern Maintenance Facility
- 24,400 Daily Project Trips (in 2035)
- Project cost: \$1.749 Billion (Board approved LOP)
- Federally Assisted project – TIFIA Loan
- Project completion: 2018



Regional Connector Transit Corridor Program Summary



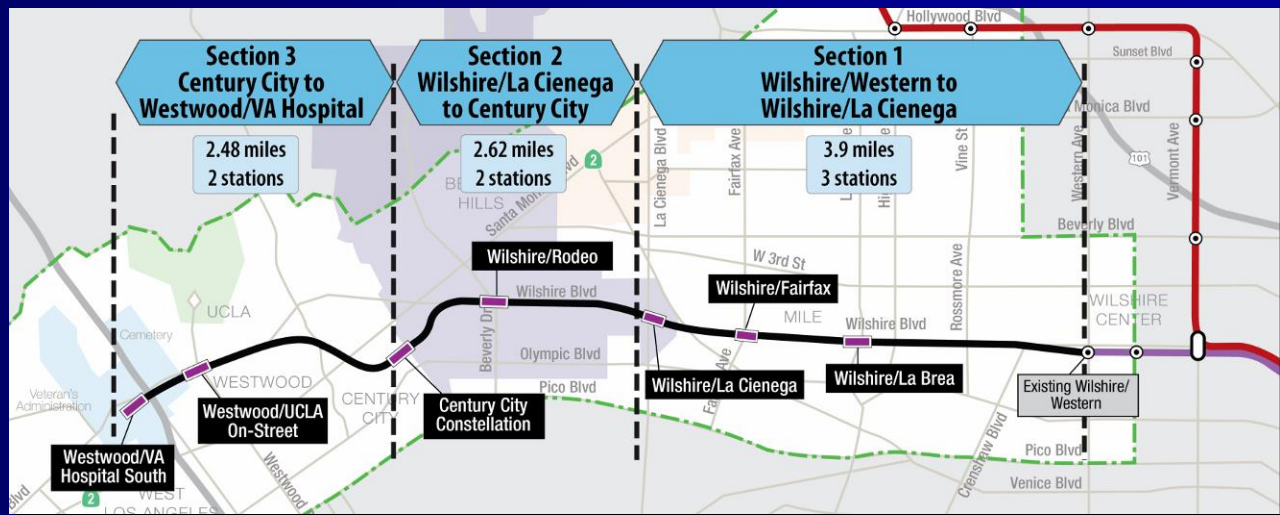
- 1.9 miles (3.1 km) Light Rail, fully underground
- Connects Gold (Pasadena/Eastside), Blue and Expo Lines
- 3 new stations
- 90,000 Daily Project Transit Trips
- 17,700 Daily New Transit Trips
- Project cost: \$1.366 Billion (2019 YOE)
- Project completion: 2019



Westside Subway Extension Program Summary



- 9-Mile (14.4 km) Subway Extension from Wilshire/Western Station to Westwood/VA Hospital
- 25 Minute one-way travel time between Downtown Los Angeles & Westwood
- 7 new stations
- 49,300 Daily Boardings
- 78,700 Daily Project Trips
- Project cost: \$5.67 billion (2022 YOE)
- Project completion: 2022



Megaproject Challenges

Over the next nine years we will construct five megaprojects – as oversight on two projects (\$2.2 bil.) and direct management on three projects (\$8.8 bil.)

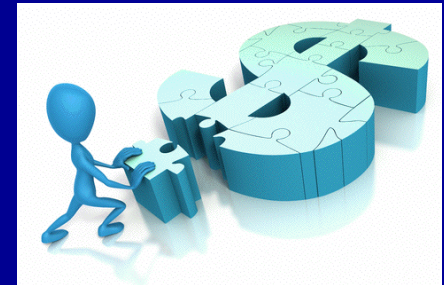
In addition, we are constructing other capital projects:

- I-405 Sepulveda Pass Improvements (\$1.1 billion)
- Patsaouras Plaza Busway Station
- Division 13 Operation and Maintenance Facility
- Universal City Station Pedestrian Bridge
- Wayside Energy Storage Substation
- Freeway Soundwalls
- Other capital



Post Measure J Actions

- The ballot effort to extend the Measure R transit sales tax by another 30 years fell just short (16,000 votes) of the necessary two thirds voter approval
- In the final vote tally, 66.11 percent of voters, nearly 2 million Los Angeles County residents, expressed confidence in Metro and the Measure R program
- Metro remains focused on delivering a dozen new transit projects and 16 highway improvement projects that voters approved in passing Measure R
- Alternative funding strategies are being pursued
 - Transportation Infrastructure Finance and Innovation Act Federal Credit Assistance (TIFIA Direct Loan)
 - Public-Private Partnerships Use of PPP to contract with the private sector for upfront funding to complete projects sooner
 - Master Credit Agreement An expansion of TIFIA to allow MCAs
 - Qualified Transportation Improvement Bond New class of qualified tax credit bonds



Megaproject Considerations

“Expect the Unexpected”



Funding

Project Delivery Method



Staffing

Management

Consistency of Design

Tracking/Reporting

Coordination

Third Party, Community Relations,
Other Depts.

Quality

Regulations/Oversight

Safety & Security



Project Delivery Method

Metro considers the following factors in determining the project delivery method:

- Project duration
- Budget
- Project complexity
- Level of design completed
- Value engineering opportunities
- Integration of design and construction activities
- Risk
- Staff expertise



LACMTA View of Design/Build

- Mature Agency
- Established Criteria & Standards
- Rail transit projects are extensions
- Agency experienced in:
 - Geology
 - System requirements
 - Operational requirements
- Risk evaluations:
 - Assessment
 - Avoidance
 - Sharing



DB Contracts – Our Focus

- People
- Project Management Approach and Agency Organization
- Budget
- Intergovernmental and Third Party Agreements
- Real Estate
- Systems Engineering
- Integrating and Commissioning



DB Contracts – Concerns

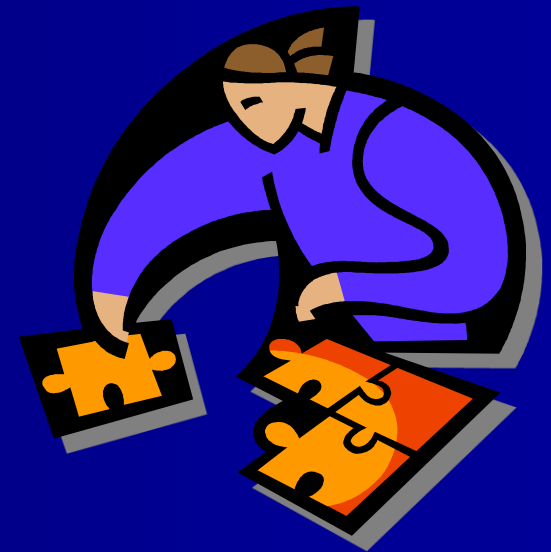


- Utilities
- Geotechnical Issues
- Hazardous Materials



Succeeding with Contractor Teams

- **Define Expectations**
 - ▶ Scope
 - ▶ Budget
 - ▶ Schedule
 - ▶ Deliverables
- **Address Coordination Issues**
 - ▶ Responsibilities
- **Establish Communications**
 - ▶ Contractual obligations
 - ▶ Policies, processes and procedures
 - ▶ Partnering
- **Implement Management Structure**
 - ▶ Integrated Project Management Organization



Third Party Issues

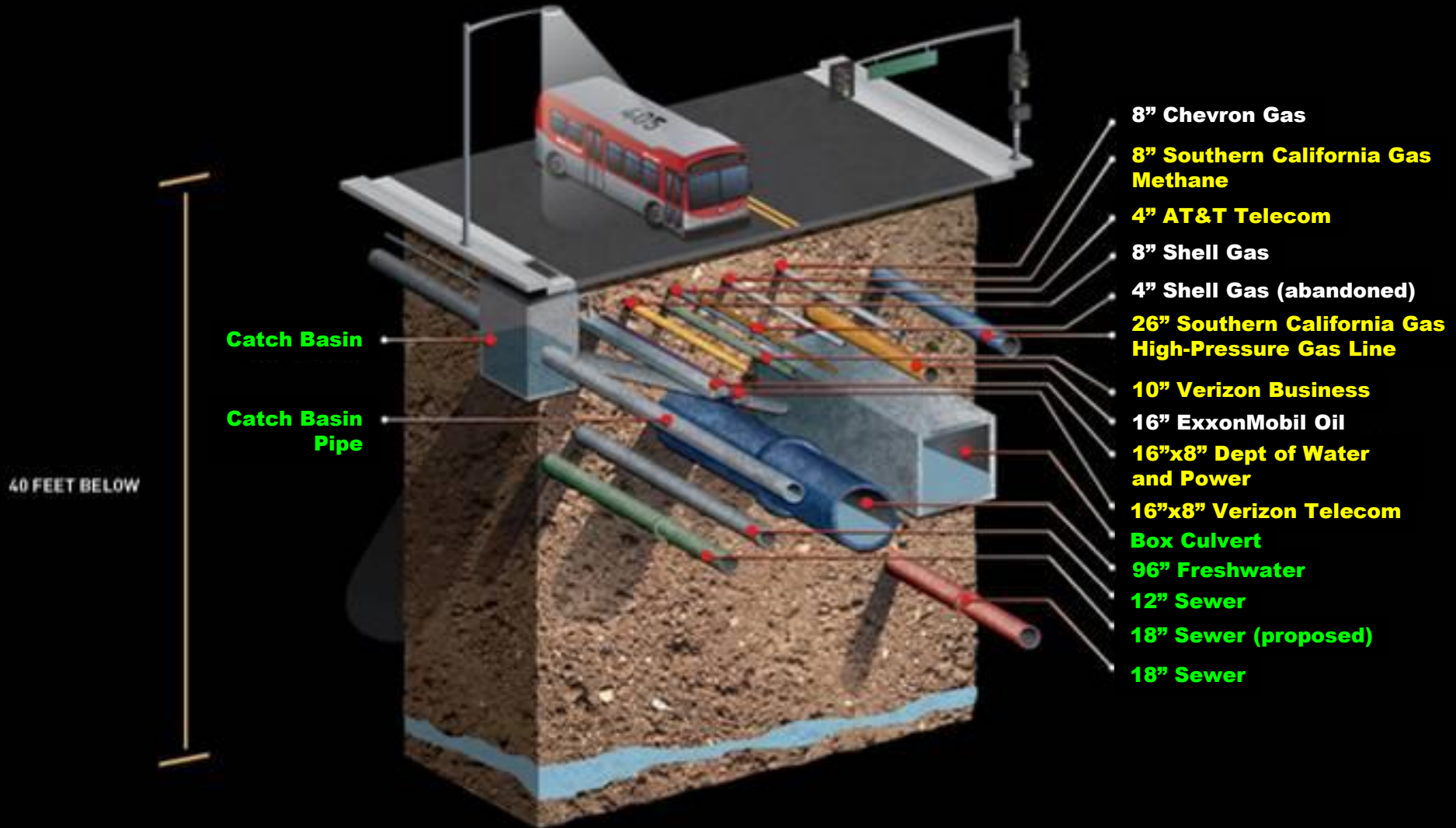
They are not like “normal” contractors

- We have little influence over their work performance or schedules
- At times, they lack manpower due to their budget and work hour restraints
- They are not obligated to conform to Federal rules stipulated in our contracts (i.e., “Buy America” provisions)
- Negotiation over cost of betterments may be an issue
- They do not necessarily bill work in a timely manner



I-405 Sepulveda Pass Improvements Project Example

“It gets complicated...”



Mitigating Third Party Issues

- Negotiate agreements early in design so that the work is done before it impacts construction
- Maintain close management of and communications with the third party
- Provide funds to hire or maintain third party employees
- Use political leverage to get the work moving



...and sometimes there are Historic Dead People and Prehistoric Animals



Evergreen Cemetery Metro Gold Line Eastside

- During street widening and re-construction of a retaining wall, remains and artifacts were discovered in unmarked graves mostly of Chinese immigrants
- *"When our construction crews found the human remains and artifacts in the forgotten potter's field, we did the right thing. Work was immediately stopped. Then we painstakingly preserved what we found and tried to find the descendants,"* said LACMTA Board Chairman Ara Najarian
- About 174 burial sites were eventually found and the remains were respectfully re-interred inside Evergreen Cemetery



Westside Subway Extension Memorandum of Understanding with the Page Museum

Excerpts from MOU:

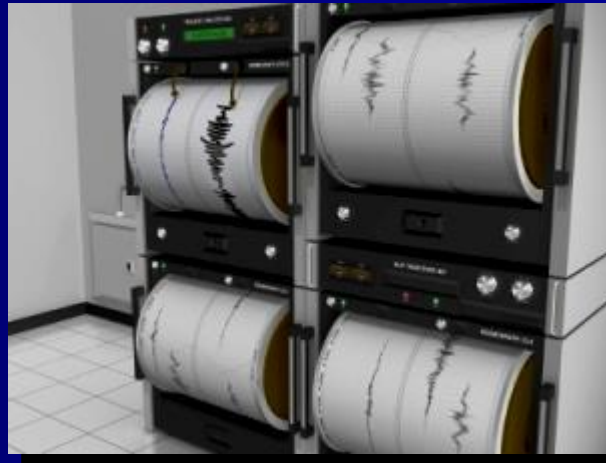
- ...MTA has the responsibility under Federal and state law to recover and preserve...paleontological, archaeological, and historical resources that may be impacted by the...project..."
- "All excavation activity must be carefully monitored. In areas...where fossils have been discovered, sediment should be removed in 4-6" levels while paleontologists monitor closely. The monitors are empowered to halt the process as soon as fossils are located."
- "After a fossil deposit has been located the surrounding area must be roped off...In the case of an accumulation deposit this may range from 5 feet to 20 or more feet across. Construction work in the immediate vicinity of the fossil deposit must be halted temporarily but may proceed normally elsewhere in the construction site."



Westside Subway Extension

By the way,
we know there will be an earthquake...

- Geotechnical work continues to identify faults
- Professional assessment of risks has been performed



It's In The Plans

- Value Engineering, Constructability Reviews, Risk Assessments and Environmental Sustainability are part of our normal process
- Have adequate contingency
- Improve management with an Integrated Project Management Organization approach
- Meet early and often with stakeholders; embrace partnering



Questions and Answers

