

# Chicago Transit Authority



## Construction Reorganization

# Construction Best Practices

- **Deloitte has assisted with benchmarking and establishing construction best practices**
- **Preliminary recommendations include:**
  - Single point accountability for construction projects
  - Use of Design/Build or Construction Manager-at-Risk where appropriate



# Challenges

- **Silos impacted project delivery**
  - Engineering, construction, procurement and zoning issues handled by separate departments
  - No one individual responsible/accountable for project execution from conception to completion
- **CTA assumes bulk of project risk**
  - CTA holds contracts with architect/engineer, general contractor, program and construction managers
  - Not fully utilizing Chicago Transit Partners
  - Construction manager has limited authority over general contractor
  - Limited accountability of team members



# Challenges

- **CTP reporting doesn't provide assistance for executive level decision-making**
  - Difficult to determine on-time, on-budget, safety
- **Pre-construction issues result in delays and increased project costs**



# “Womb to Tomb” Approach

- In September 2007, the CTA reorganized how it performs construction oversight



# Facilities Maintenance & Construction

Major projects include:

- 1. Howard Station**
- 2. Brown Line station expansion and modernization**
- 3. New bus and rail washing facilities**



# Power & Way, Engineering & Construction

## Major projects include:

### 1. Slow Zone elimination:

- Blue Line O'Hare tie replacement
- State Street Subway tie replacement
- Track Department work:
  - North Main (north of Sheridan curve)
  - Dan Ryan (tamping, screw spike and rail replacement)
  - Ravenswood (repairs between Addison and Irving Park)

### 2. Signal renovations:

- Blue Line, Congress to Jefferson Park
- Loop

### 3. Block 37



# Construction Performance Measures

## On-Time

Based on original timeline

## On-Budget

Baseline budget that doesn't change

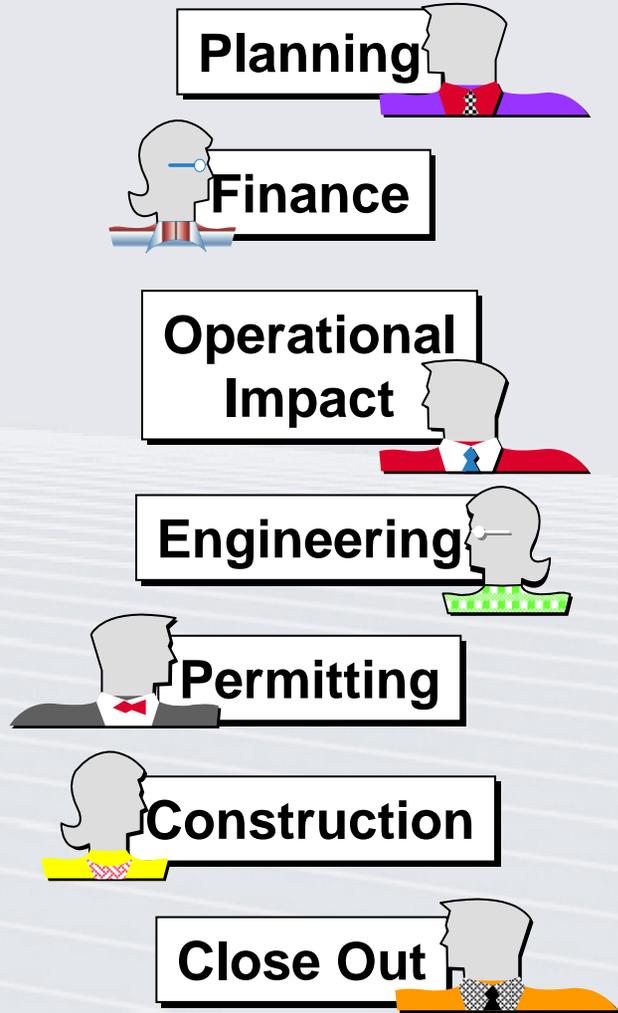
## Safety Incidents

Goal of zero accidents

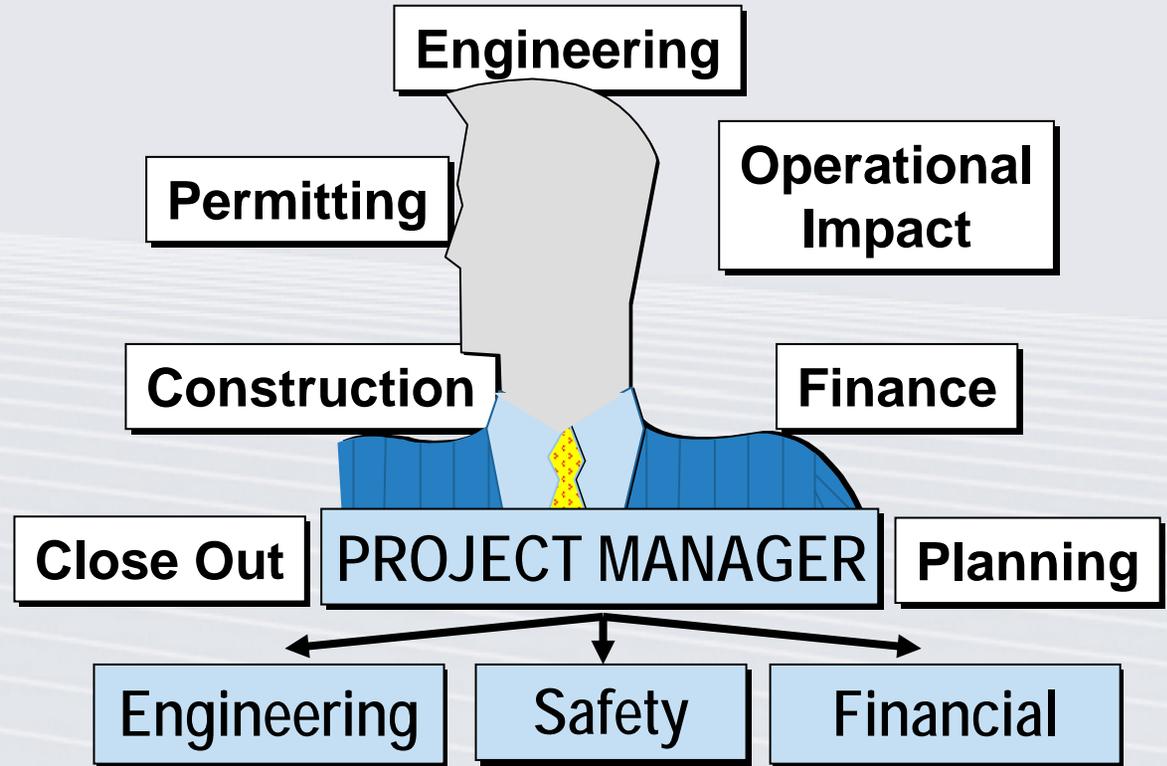


# Construction Project Life Cycle

- No one manager accountable



Before



NOW



# Construction Mngt. Moving Forward

- ✓ Fully developed Capital planning with operational coordination
- ✓ One owner for the life of the project
- ✓ A budget and timeline that is baselined and fixed

# CTP Program Manager Role Changes

## Before

- **Supplemental staffing but no direct responsibility**
- **Provided budgeting, estimating and financial reporting**

## Now

- **Responsible for:**
  - Construction zone within CTA stations and on right of way
  - Phasing construction work over the length of the project
  - Zoning analysis in planning phase of construction work
  - Coordinating public way and building permits



# Chicago Transit Authority



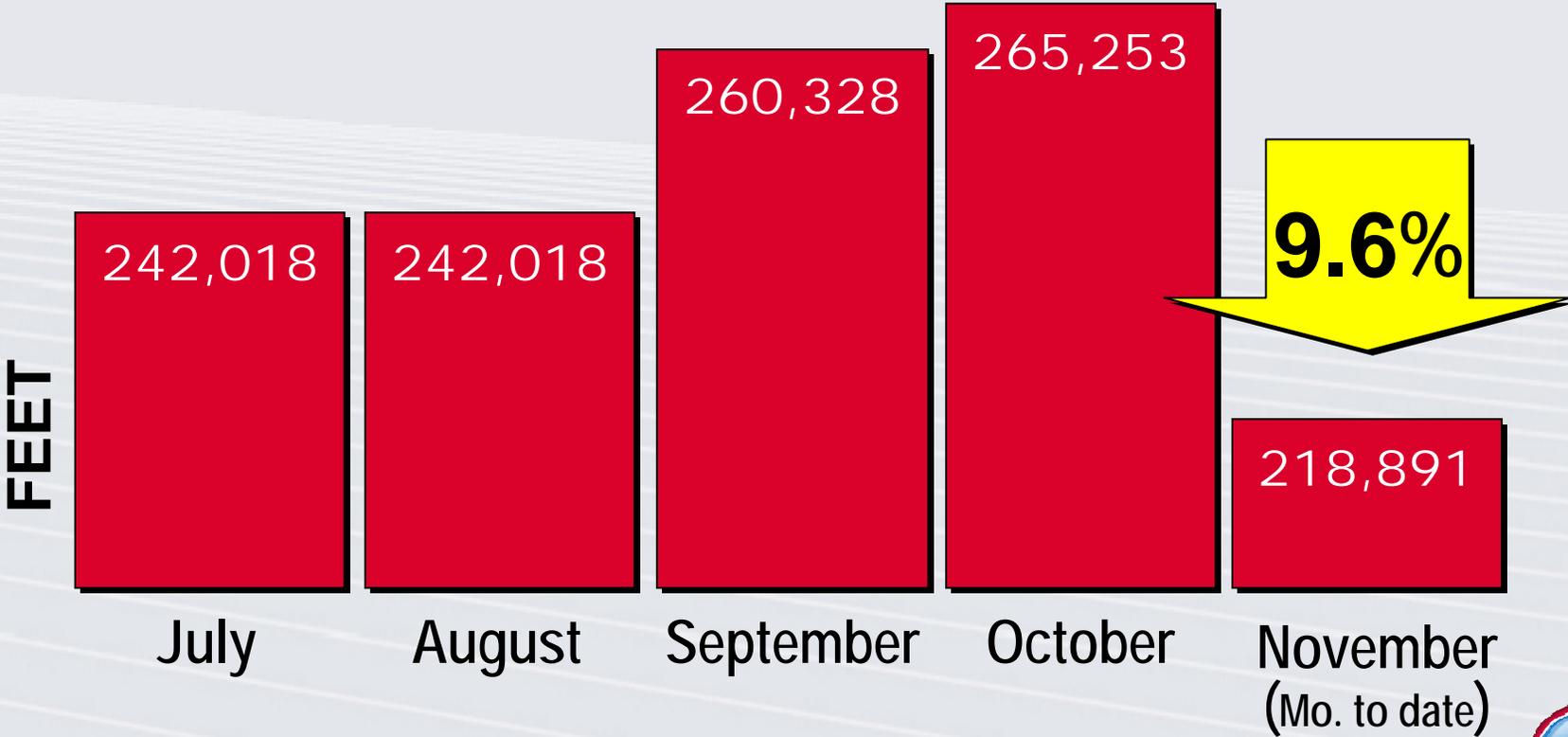
Slow Zones

# Slow Zones

- ✓ **State of slow zones**
- ✓ **Work completed**
- ✓ **Work in progress**
- ✓ **Short-term needs: Phase 1**
- ✓ **Short-term needs: Phase 2**

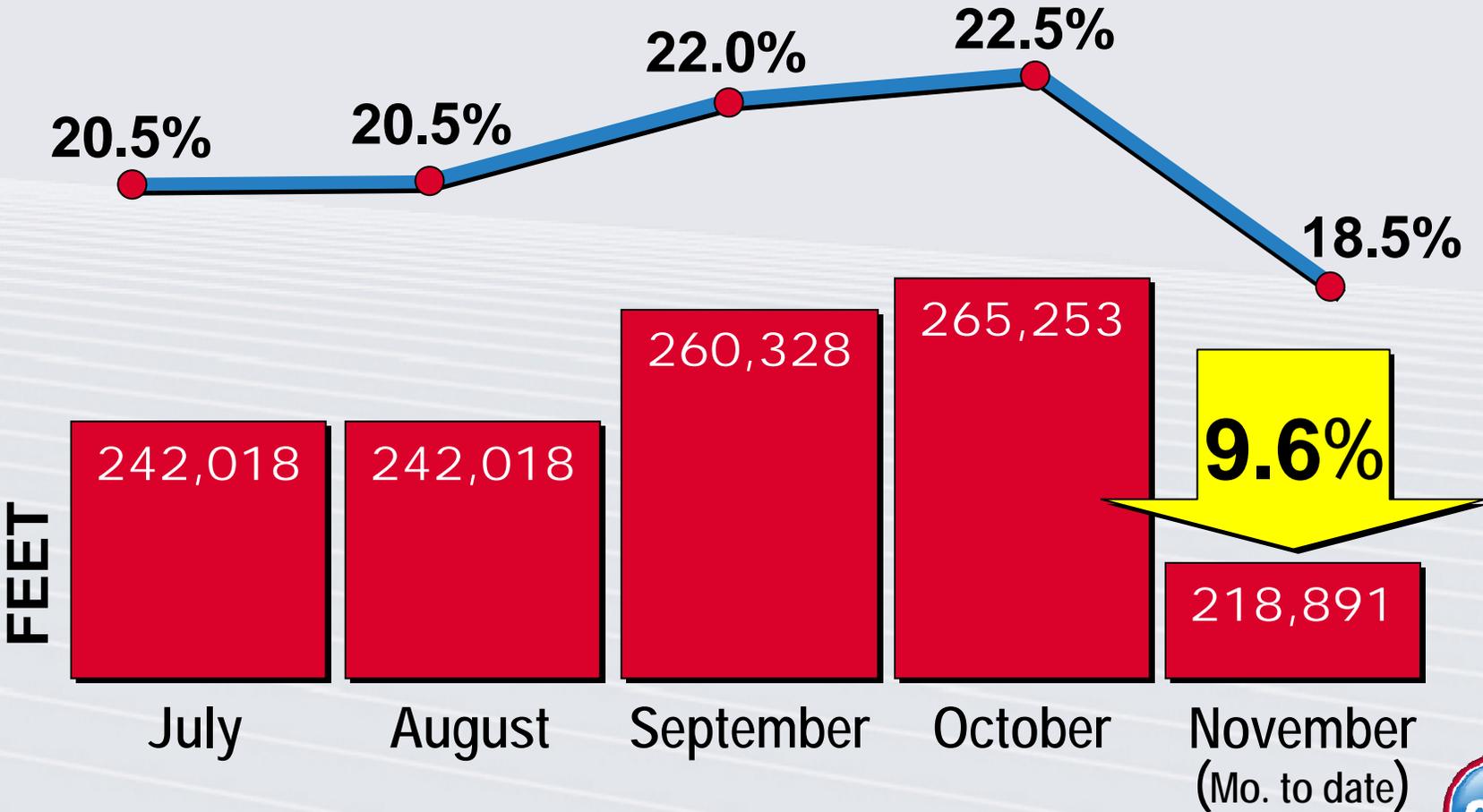
# Slow Zone Removal by Feet & % of Total

- Prioritization of Slow Zones has begun to improve customers' experience



# Slow Zone Removal by Feet & % of Total

- Prioritization of Slow Zones has begun to improve customers' experience



# Dearborn Highway

- Grand Division

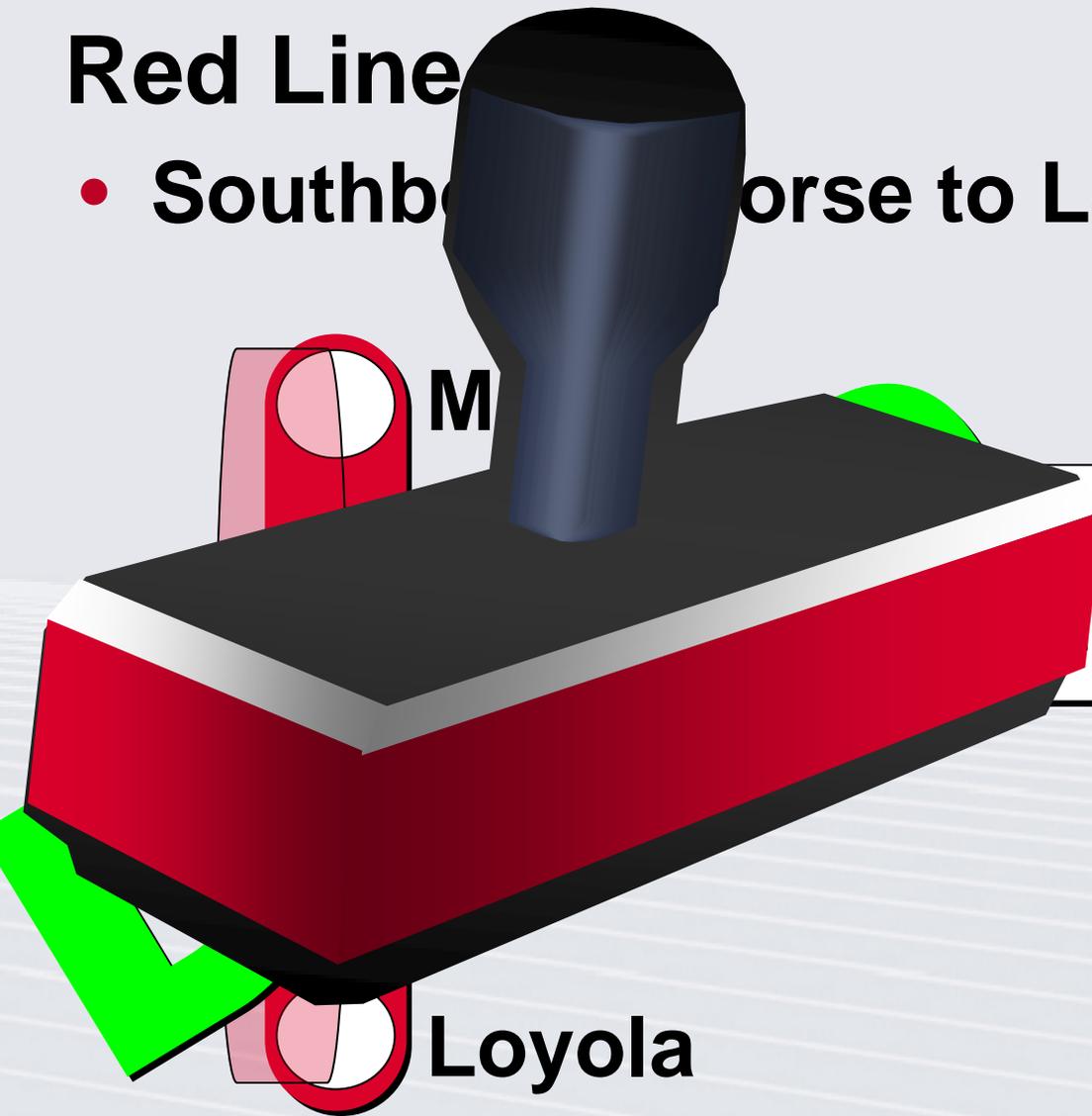
Feet Removed: 18,000  
Timeline: Jul. – Sept. 2007

Grand



# Red Line

- Southbound Horse to Loyola



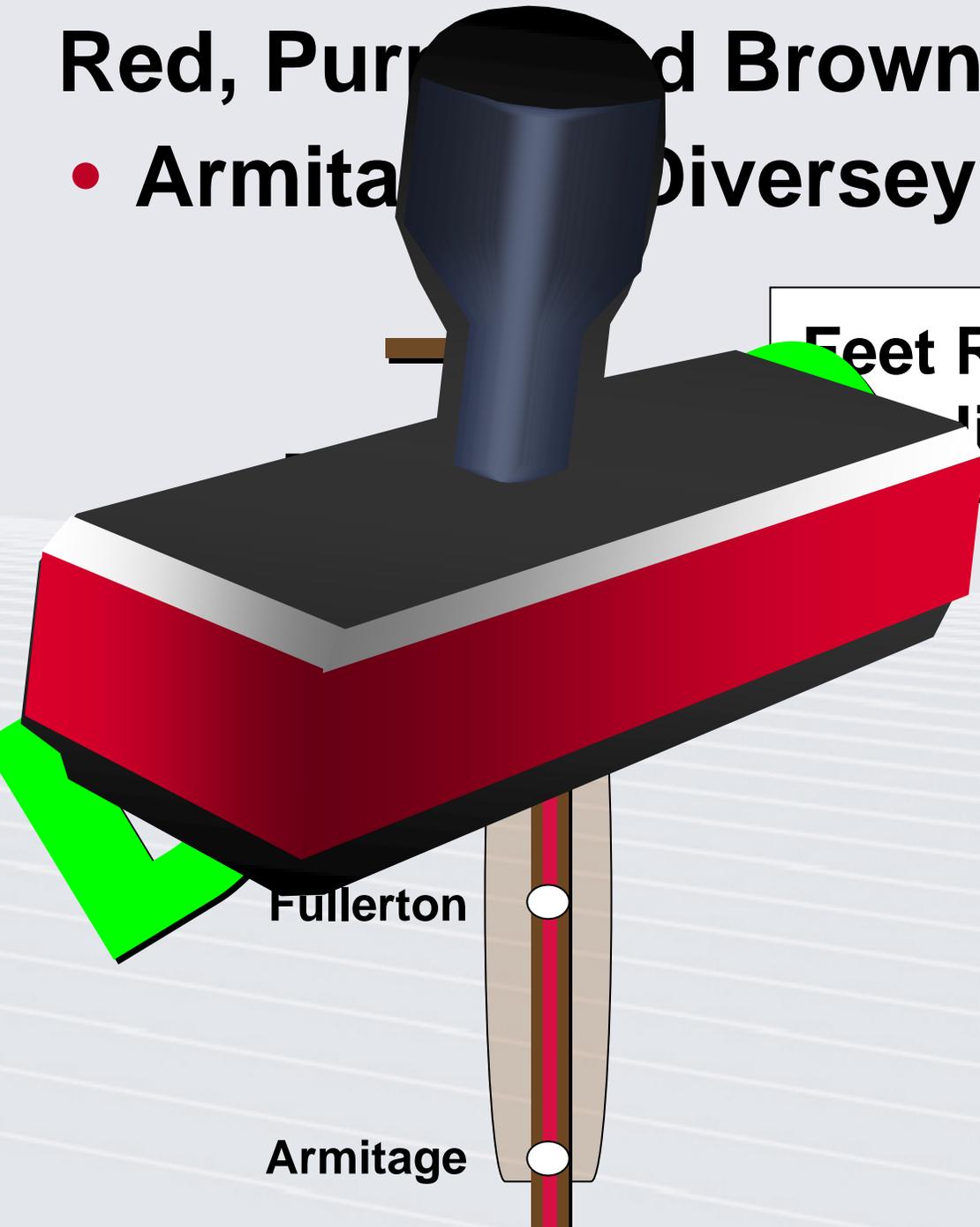
moved: 2,775  
e: Aug. – Sept. 2007

# Red, Purple and Brown Lines

- Armitage and Diversey

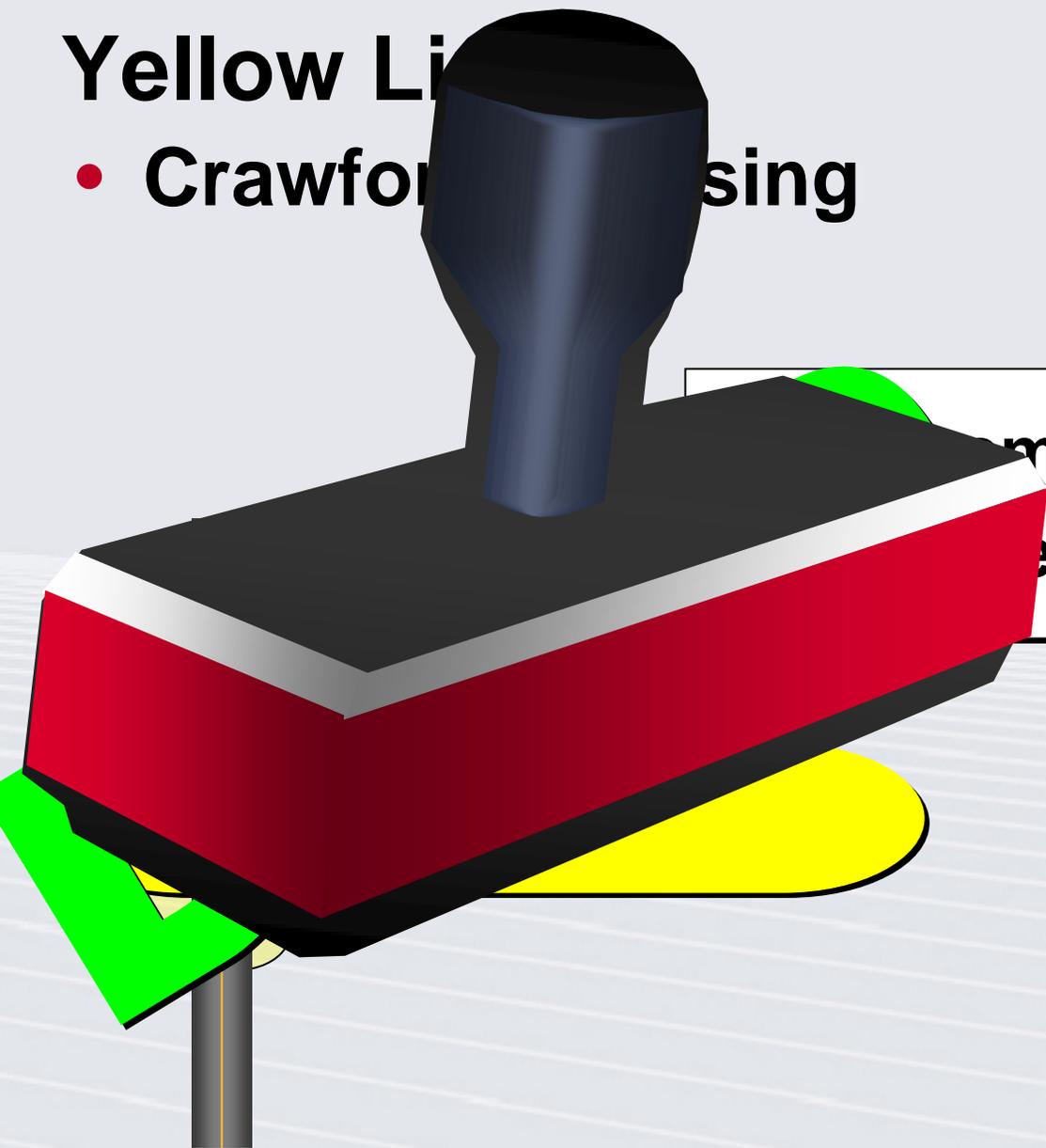
Feet Removed: 2,537

Line: May – Nov. 2007



# Yellow Light

- Crawford Crossing



Removed: 2,000  
Date: Oct. to Nov. 2007

Crawford Street



# Red Line - State Street Subway

- Grand to Clark/Division



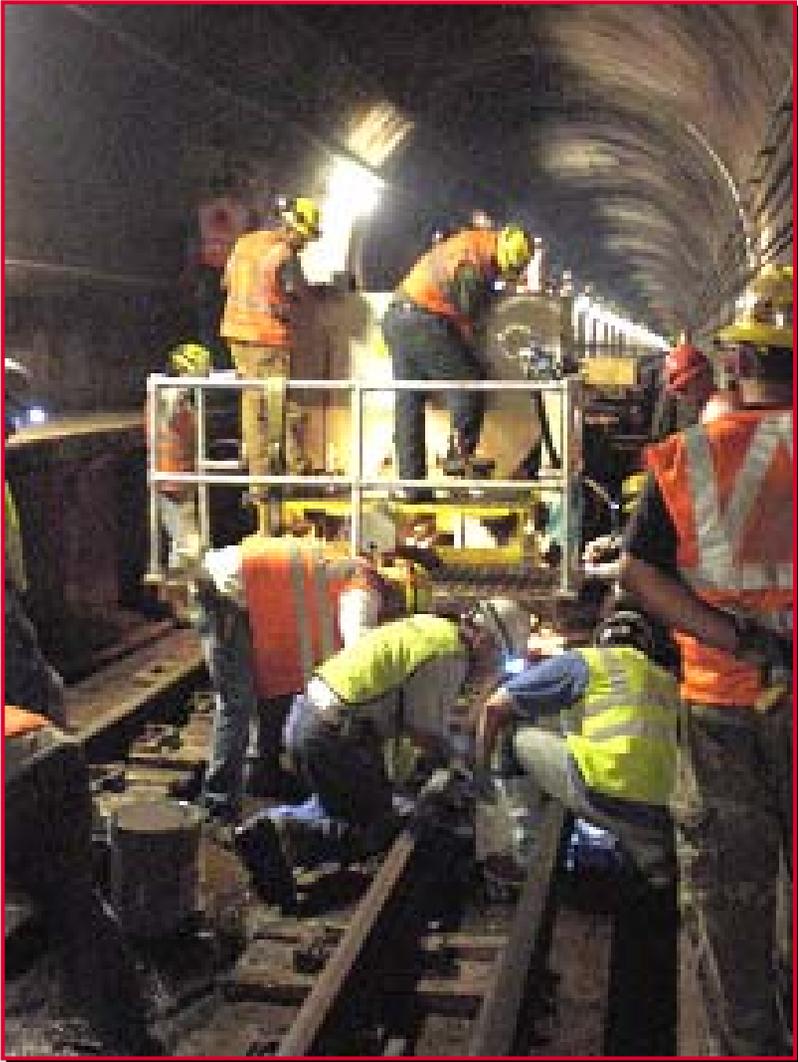
- Target: 8,000 ft.
  - Timeline: Dec. 31, 2007
- Nearly Complete

# Red Line Slow Zone

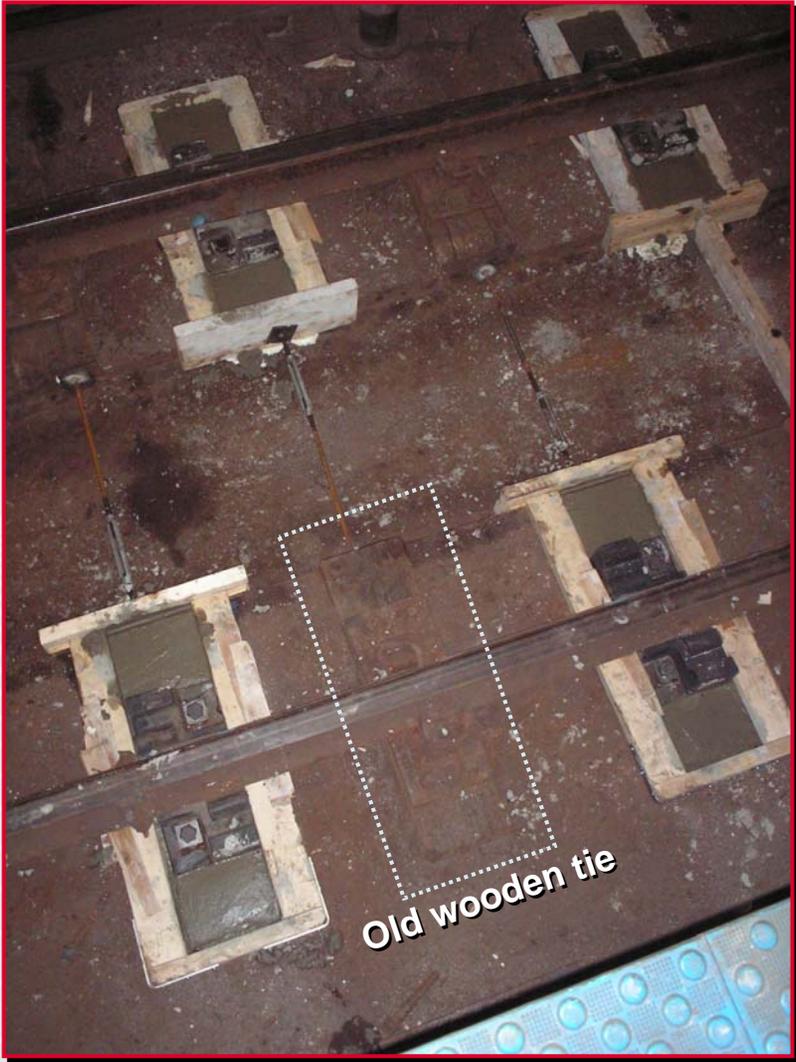


Concrete molds ready for pouring

# Red Line Slow Zone



Crews pouring concrete



Concrete half-ties curing in their molds



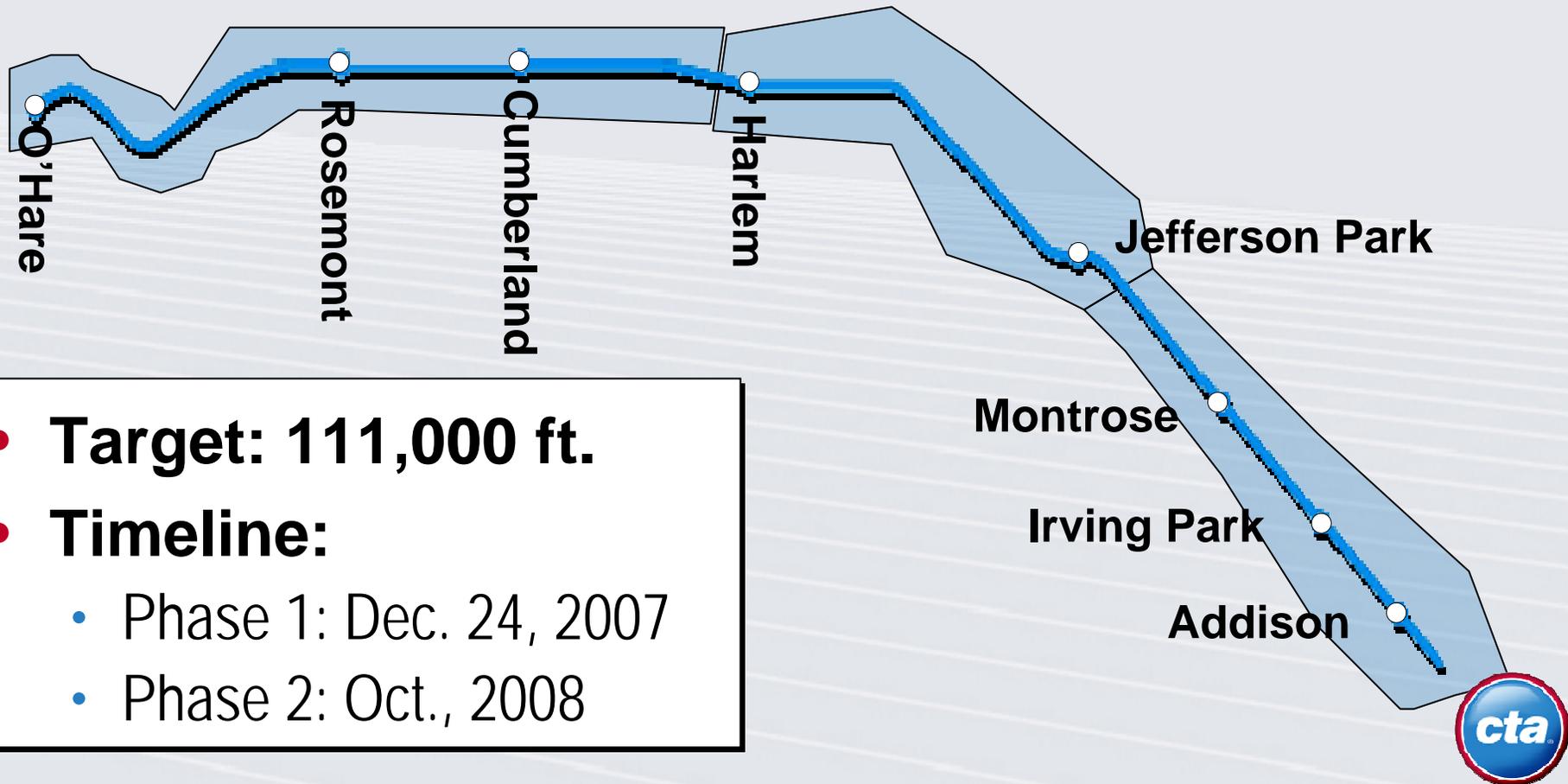
# Red Line Slow Zone



Crews performing finishing work on half-ties

# Blue Line – O'Hare Tie Replacement

- Phase 1: Harlem to Jefferson Park (25,000 ft.)
- Phase 2: Remaining areas (86,000 ft.)



- **Target: 111,000 ft.**
- **Timeline:**
  - Phase 1: Dec. 24, 2007
  - Phase 2: Oct., 2008

# Blue Line Slow Zone



New plastic ties installed on O'Hare Branch



# Blue Line Slow Zone



New plastic ties installed on O'Hare Branch



# Blue Line Slow Zone



New plastic ties installed on O'Hare Branch



# Blue Line Slow Zone



New plastic ties being installed on the O'Hare Branch



# Blue Line Slow Zone



New plastic ties being installed on the O'Hare Branch



# Blue Line Slow Zone



Ballast excavation on the O'Hare Branch

# Blue Line Slow Zone



Rail being reinstalled on the O'Hare Branch

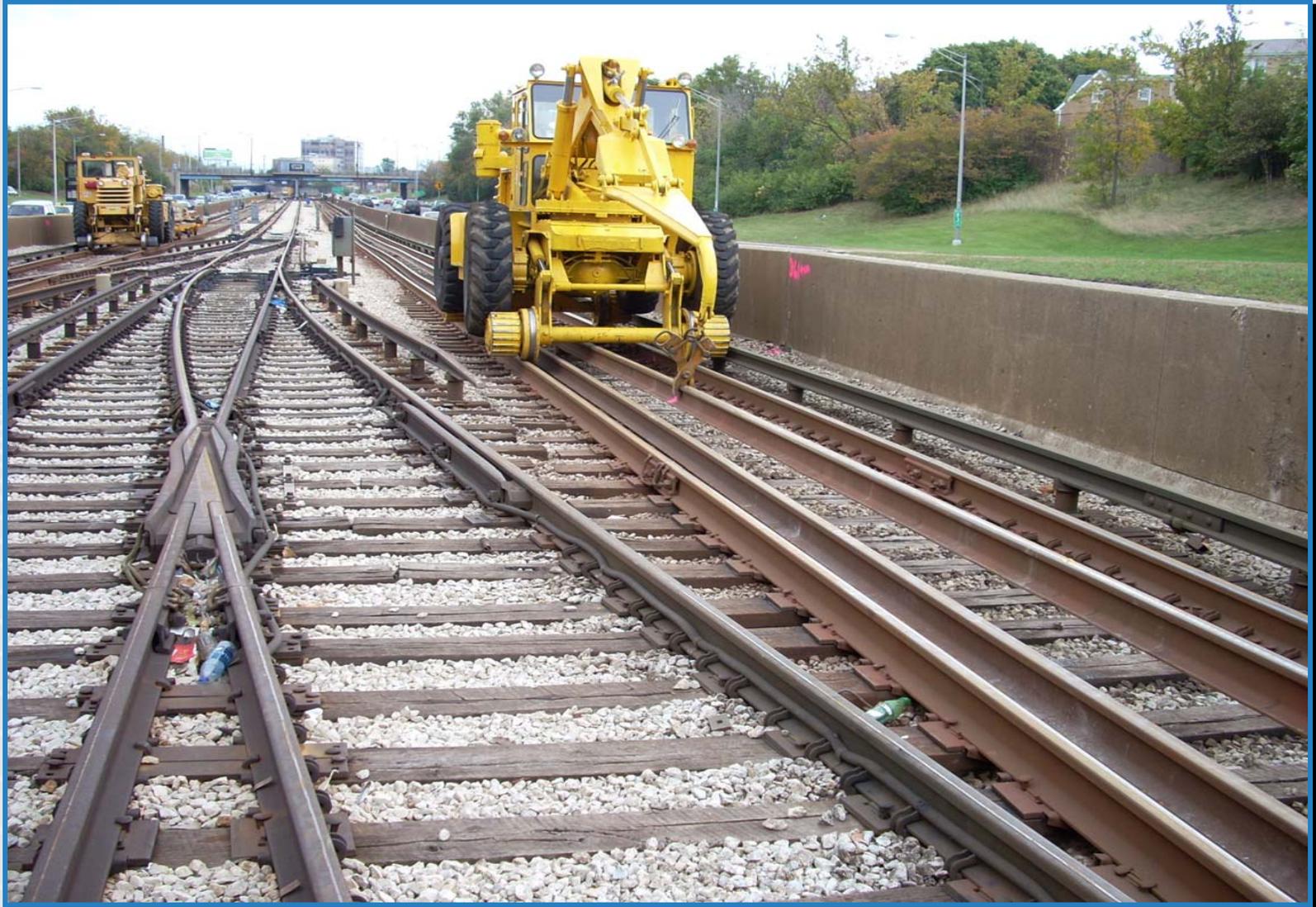
# Blue Line Slow Zone



Rail being reinstalled on the O'Hare Branch



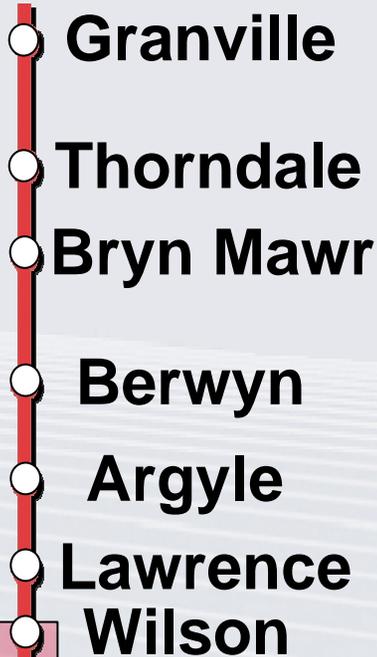
# Blue Line Slow Zone



Rail being reinstalled on the O'Hare Branch

# Red Line

- **Southbound Wilson to Sheridan**



Sheridan

Addison

- **Targeted: 3,325 ft.**
- **Timeline: Dec. 31, 2007**

**Nearly Complete**



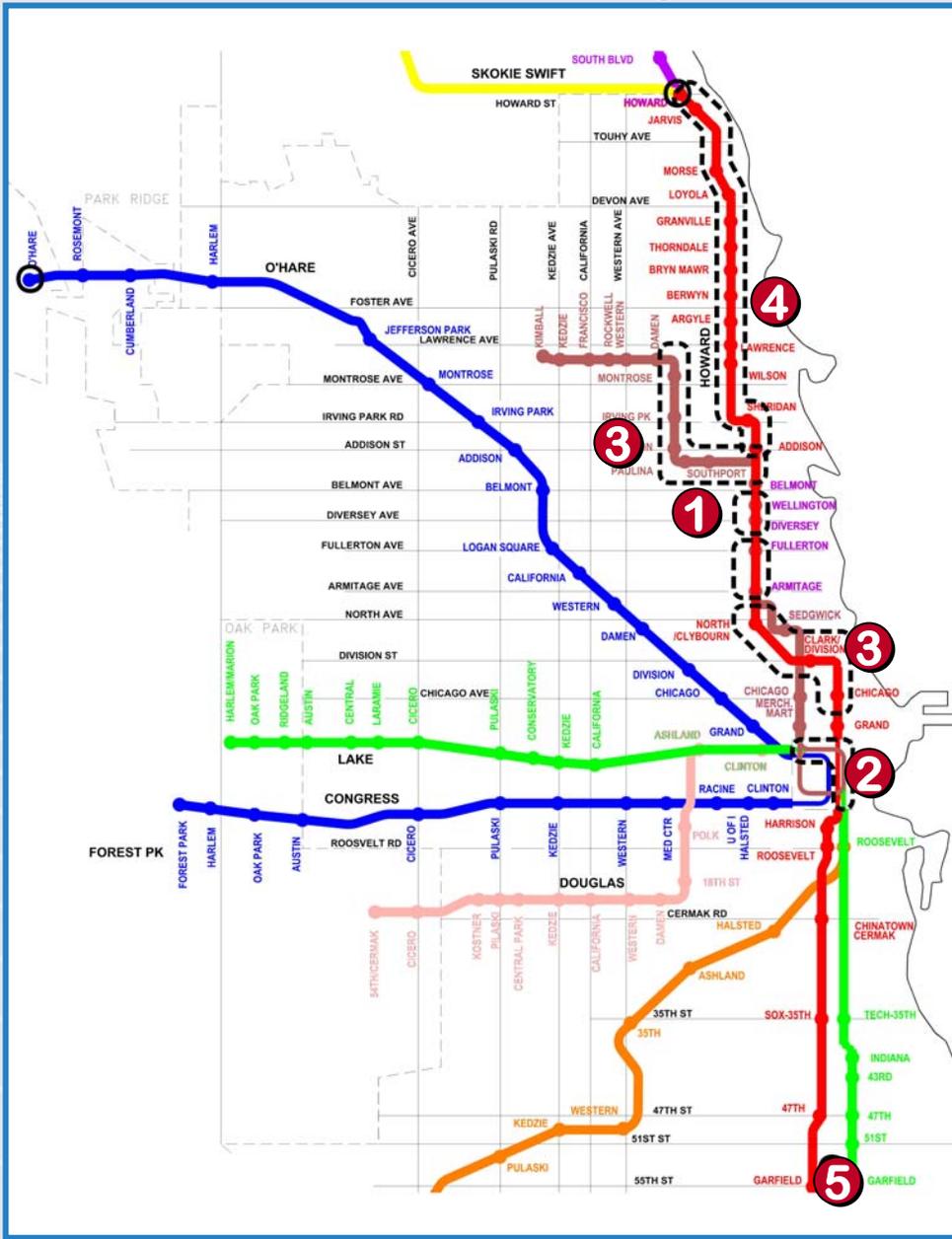
# Red Line - State Street Subway

- **Harrison to North/Clybourn**



- **Targeted: 43,000 ft.**
- **Contract awarded: Nov. '07**
- **Timeline: Jan. – Dec. '08**

# Short Term Projects: \$100 M.

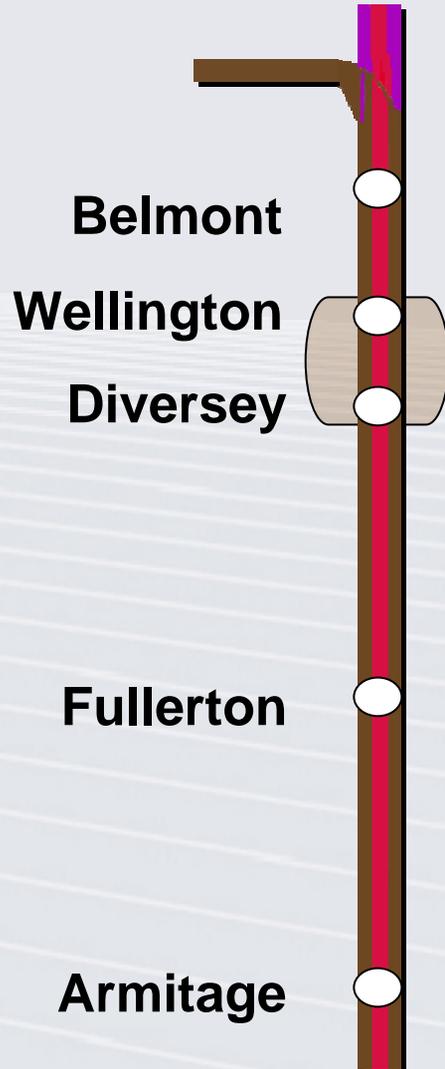


1. Red, Brown & Purple Lines	Wellington/ Diversey
2. Loop	Wabash - Lake
3. Brown Line	Clark Jct. to Kimball
4. Red, Brown & Purple Lines	Clark Jct. to Howard
5. Green Line/ Englewood	Structural Slow Zones



# Red, Purple and Brown Lines

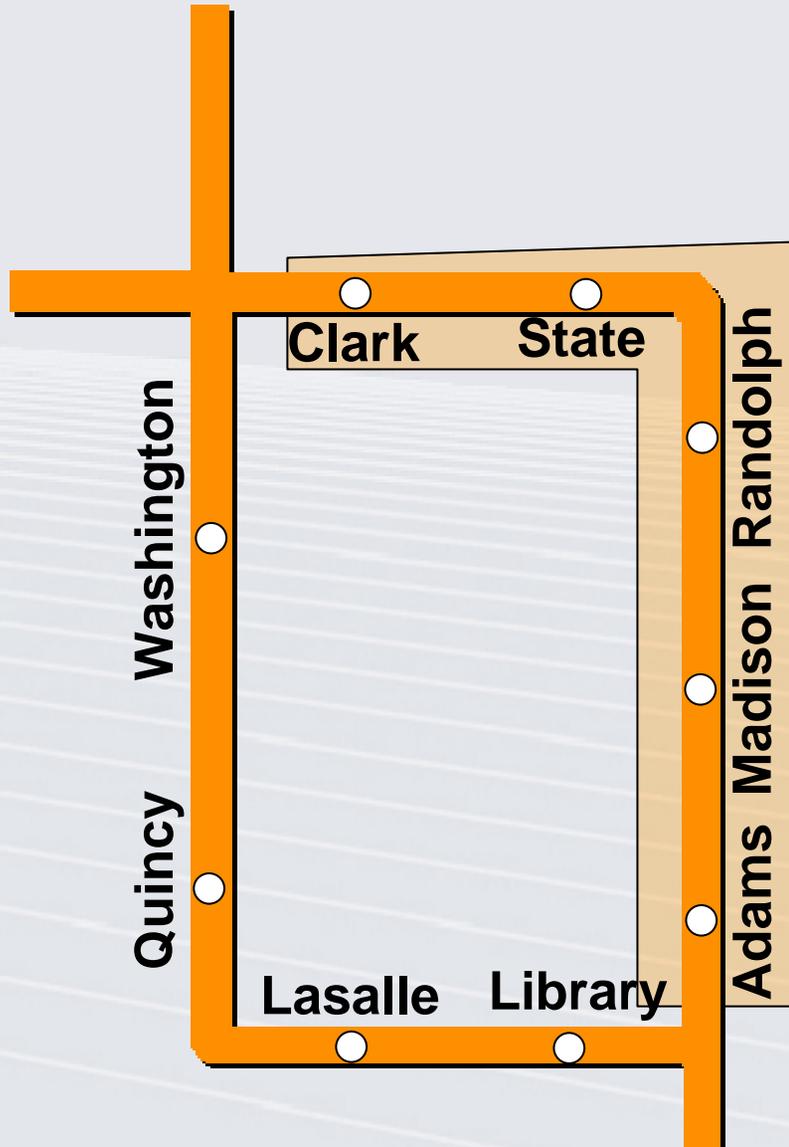
- **Diversey to Wellington, Tracks 1 - 4**



- **Target: 5,000 ft.**
- **Scope: Selected Tie Replacement**
- **Timeline: Mar. – Dec. '08**

# Loop

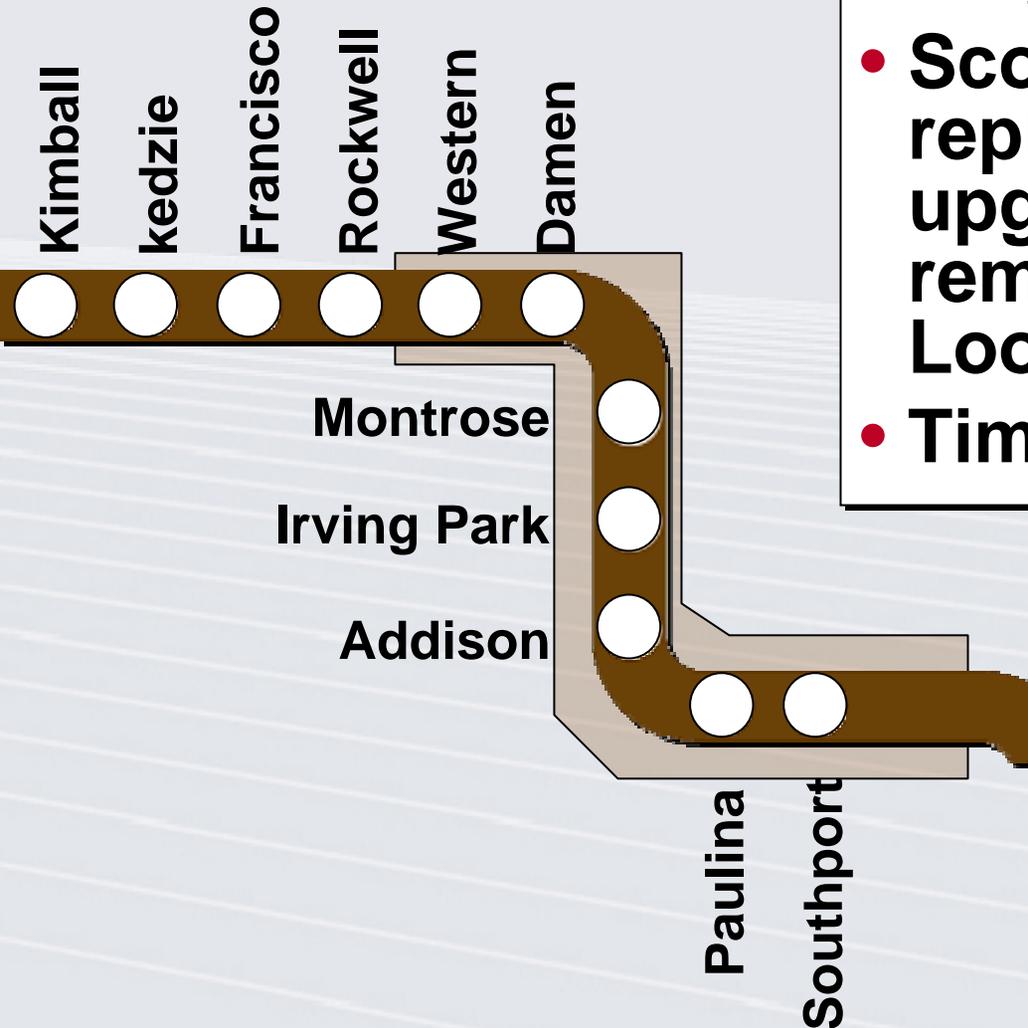
- **Wabash to Lake**



- **Target: 9,500 ft.**
- **Scope: Tie replacement to maintain safe conditions on elevated hub**
- **Timeline: Mar. – Dec. '08 (evenings/weekends)**

# Brown Line - Ravenswood

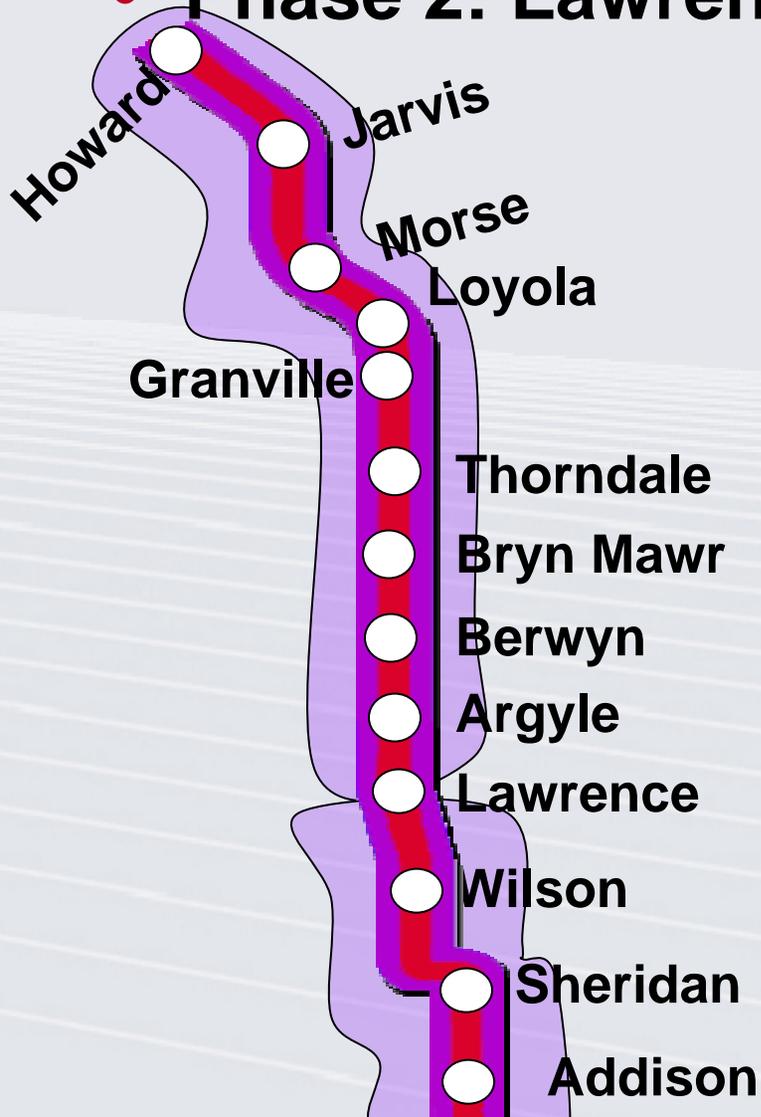
- **Western to Southport**



- **Target: 17,500 ft.**
- **Scope: Tie/rail replacement, track upgrade, abandoned track removal on Ravenswood Loop**
- **Timeline: Mar. – Dec. '08**

# Red, Purple, Brown Lines

- Phase 1: Clark Jct. to Lawrence, Tracks 2 & 3
- Phase 2: Lawrence to Howard, Tracks 2 & 3



- Target: 30,000 ft.
- Timeline: Jan. – Dec. '08

# Green Line -- Englewood Structural Repair



- **Scope: Repair structural elements to element slow zones**
- **Timeline: Jan. – Dec. '08**

# Phase 2 Projects

Dearborn Subway Ties & Rail

Brown Line Substations – Replace Ravenswood, Lincoln, Sedgwick & Illinois;  
Rehab Kimball

Brown Line Signals – Replace equipment (Not required for AC cars)

Red Line Substation Renewal – State, Princeton and Farwell

NM Signals -- Clark Junction to Howard

Rehabilitate 3 Loop/Broadway Substations -- E. Lake, Franklin & Broadway

Loop Track – Wells to Van Buren

South Loop Connector Track

Ravenswood-Loop Connector Ties

Green Line Signals – Replace Equipment (Not required for AC cars)

Dan Ryan Track, Ties, Rail & Ballast Work

Evanston Branch – Track, Viaducts & Retaining Wall

Purple Line – Clark to Howard

Congress Ballast – Rail

Jackson Park Ties – Rail

Central Signal Control

**Projects Total = \$700 Mil.**

