

# I-290 Construction Approach

*April 2016*





- Project Process - Phase I, II, & III
- Overall guiding principles
- I-290 construction approach
- I-290 construction schedule
- Construction mitigation
- Best Practices





## ■ Phase I – Planning

- Basic constructability and construction sequence
- Right of way and traffic management
- Letter of Intent
  - Conceptual outline of commitments & costs



## ■ Phase II – Design

- Geotechnical/soils surveys (used to refine structural design and identify any special circumstances)
- Detailed engineering plans
  - Detailed construction staging plan
  - Specifications – project community context
  - Refine cost estimates
- Intergovernmental agreements
  - Details and refined costs





## ■ Phase III - Construction

- Implement project plans and specifications
- Adjust to field conditions as appropriate
- Communicate status and coordinate construction activities with communities

# OVERALL CONSTRUCTION GUIDING PRINCIPLES



- Provide safe & efficient work zones during construction
- Minimize adverse effects to the traveling public:
  - Pedestrian, transit, bicycle, and auto
- Implement strategies to minimize community disruptions
- Inform surrounding communities and affected users of impacts & available travel options





- Early improvements prior to mainline construction
  - Off system roadway improvements:
    - Offers additional travel options
    - Local community benefits

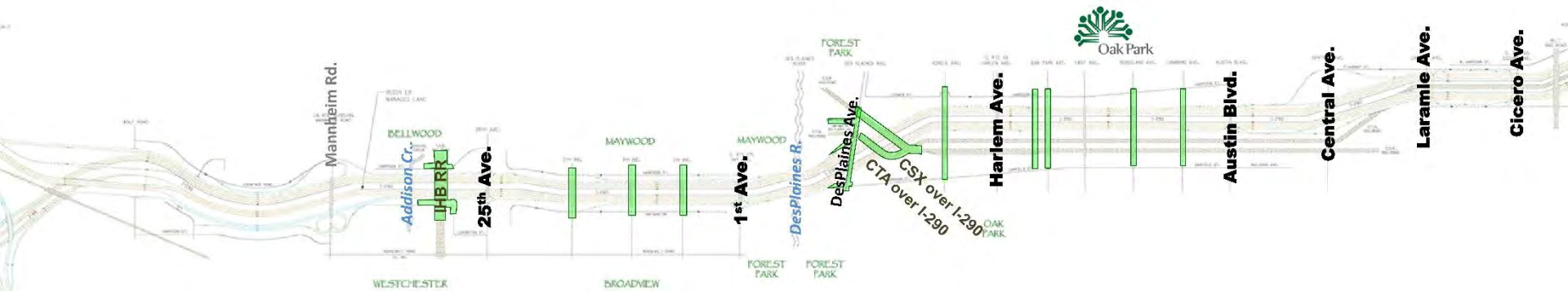




# CONCEPTUAL CONSTRUCTION SCHEDULE



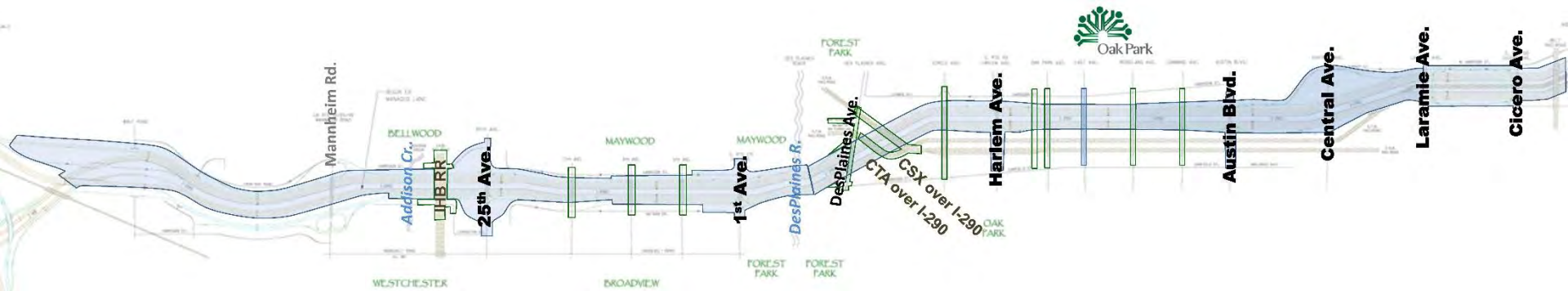
- 8 year construction schedule estimate (*Phase III*)
  - 4 years advance work
    - Local cross-road & pedestrian bridges (as practical)
    - CTA, CSX, IHB railroad bridges
    - Utilities & retaining walls (as practical)
  - 4 years mainline construction
    - Expressway (some periods of 4 lane operation)
    - Major interchanges
    - Mainline drainage
    - Retaining walls & noise walls



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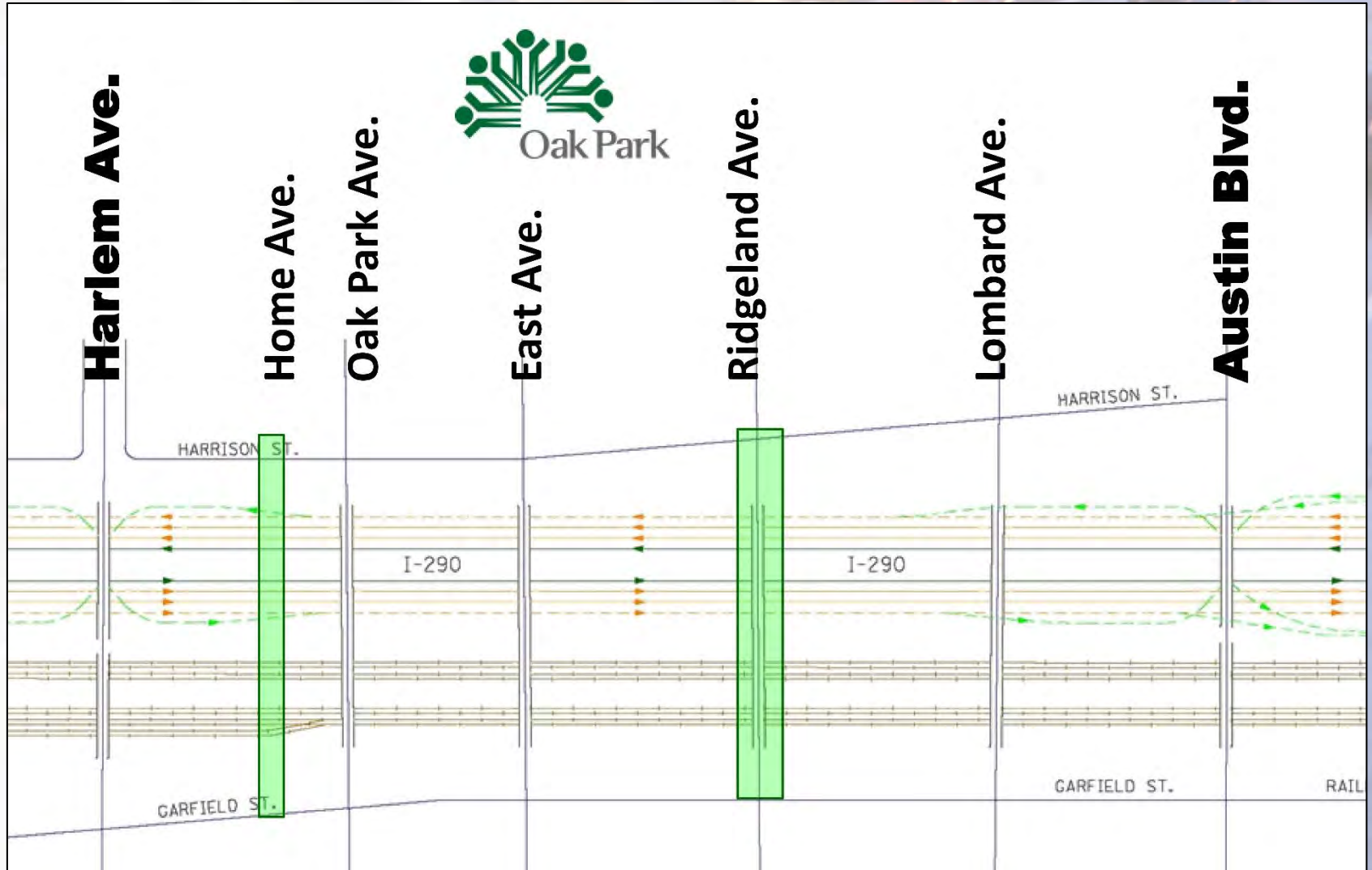


- Implement construction staging to minimize disruptions
  - Advance local improvement projects prior to mainline
  - Minimize duration of mainline construction (4 years)
  - Minimize duration & extent of mainline lane closures
  - Avoid closing two consecutive interchange/access points
    - 25<sup>th</sup> Avenue & 1<sup>st</sup> Avenue
    - Harlem Avenue and Austin Boulevard
    - Central Avenue and Lamarie/Cicero Avenue
  - Avoid full closure of two consecutive cross roads
  - Maintain one entrance to each Blue Line platform

# CONCEPTUAL CONSTRUCTION SCHEDULE OAK PARK



**Advance Work: Year 1 & 2**

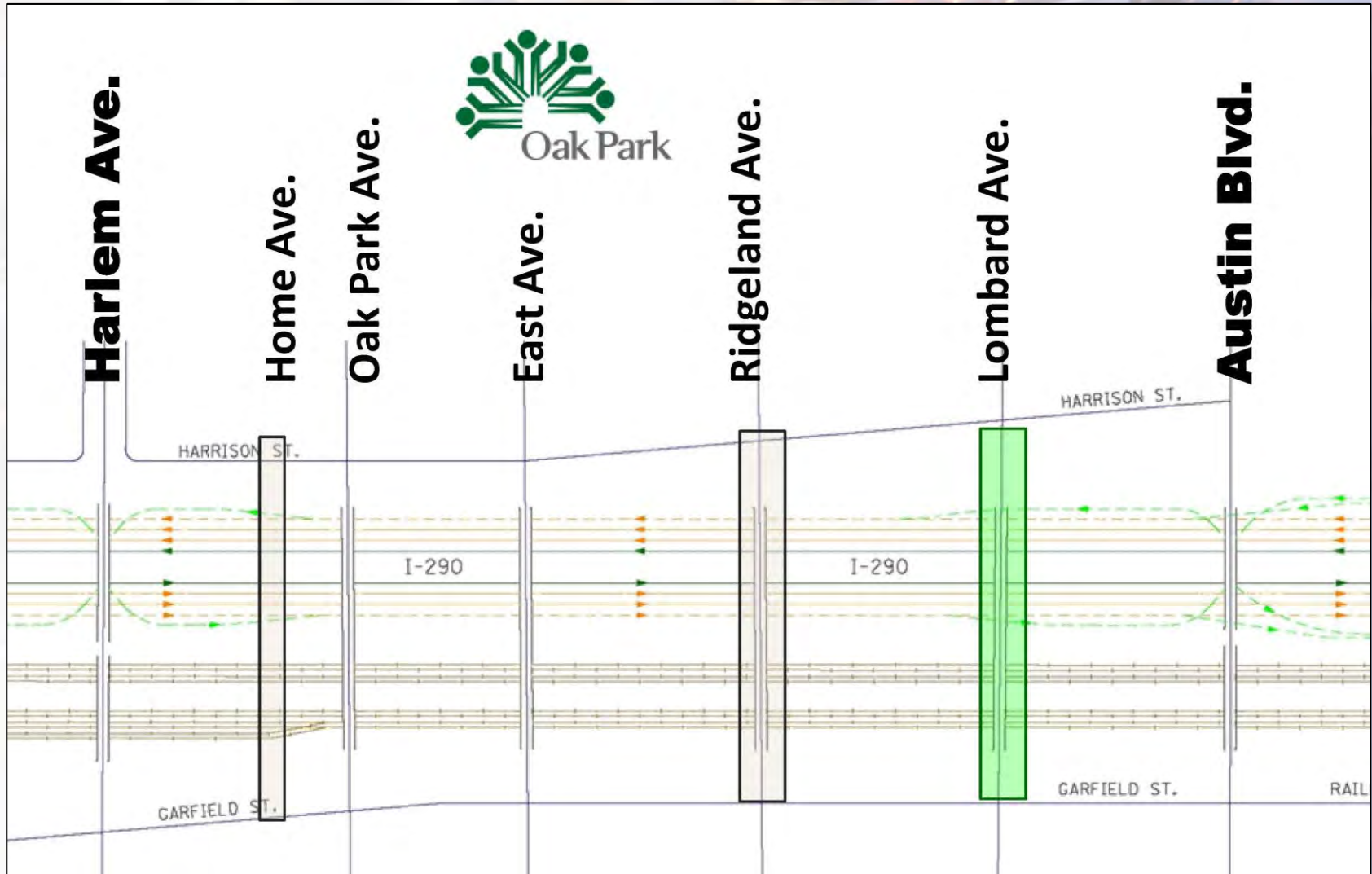




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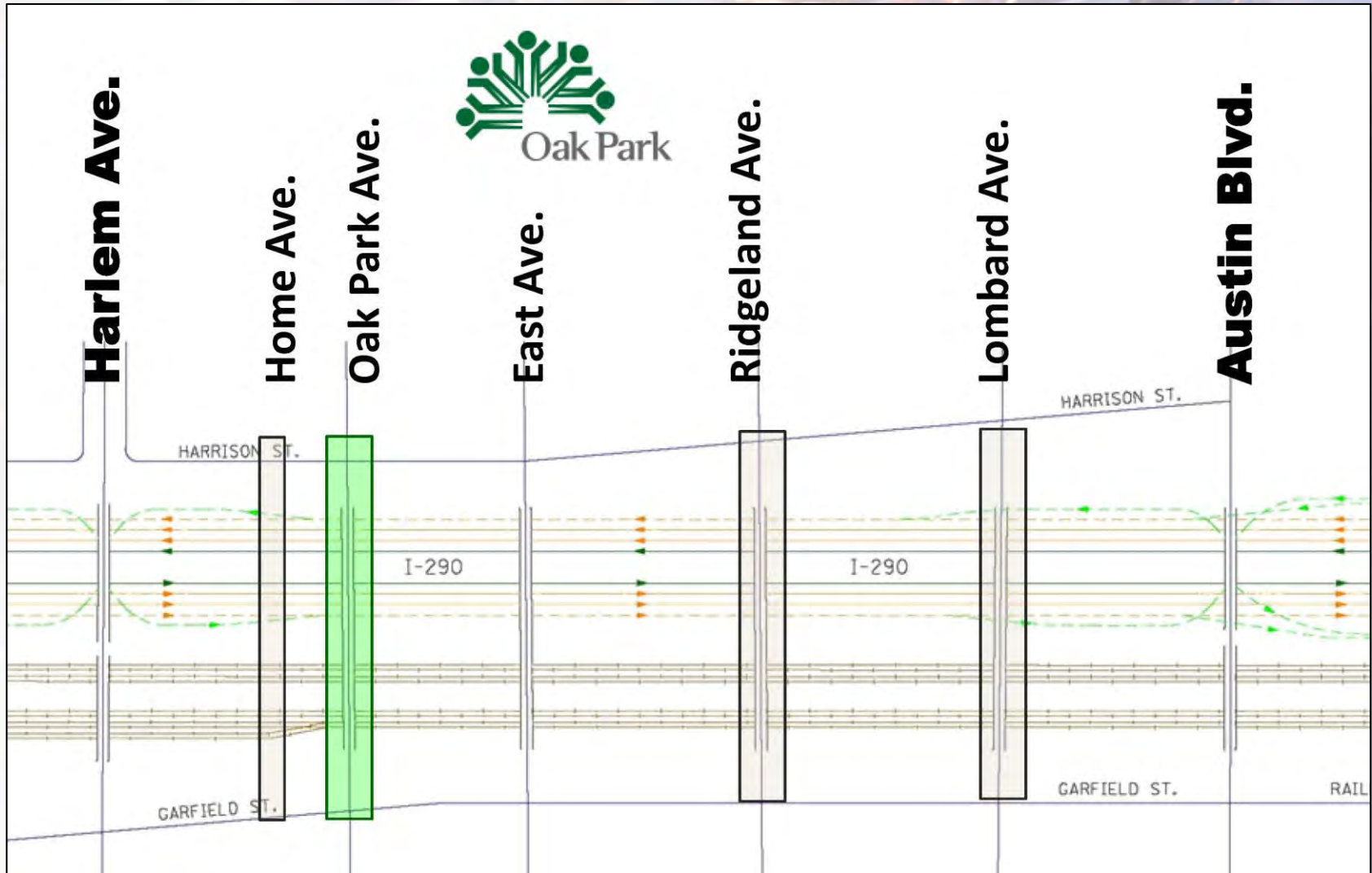
**Advance Work: Year 2 & 3**



# CONCEPTUAL CONSTRUCTION SCHEDULE OAK PARK



## Advance Work: Year 3 & 4

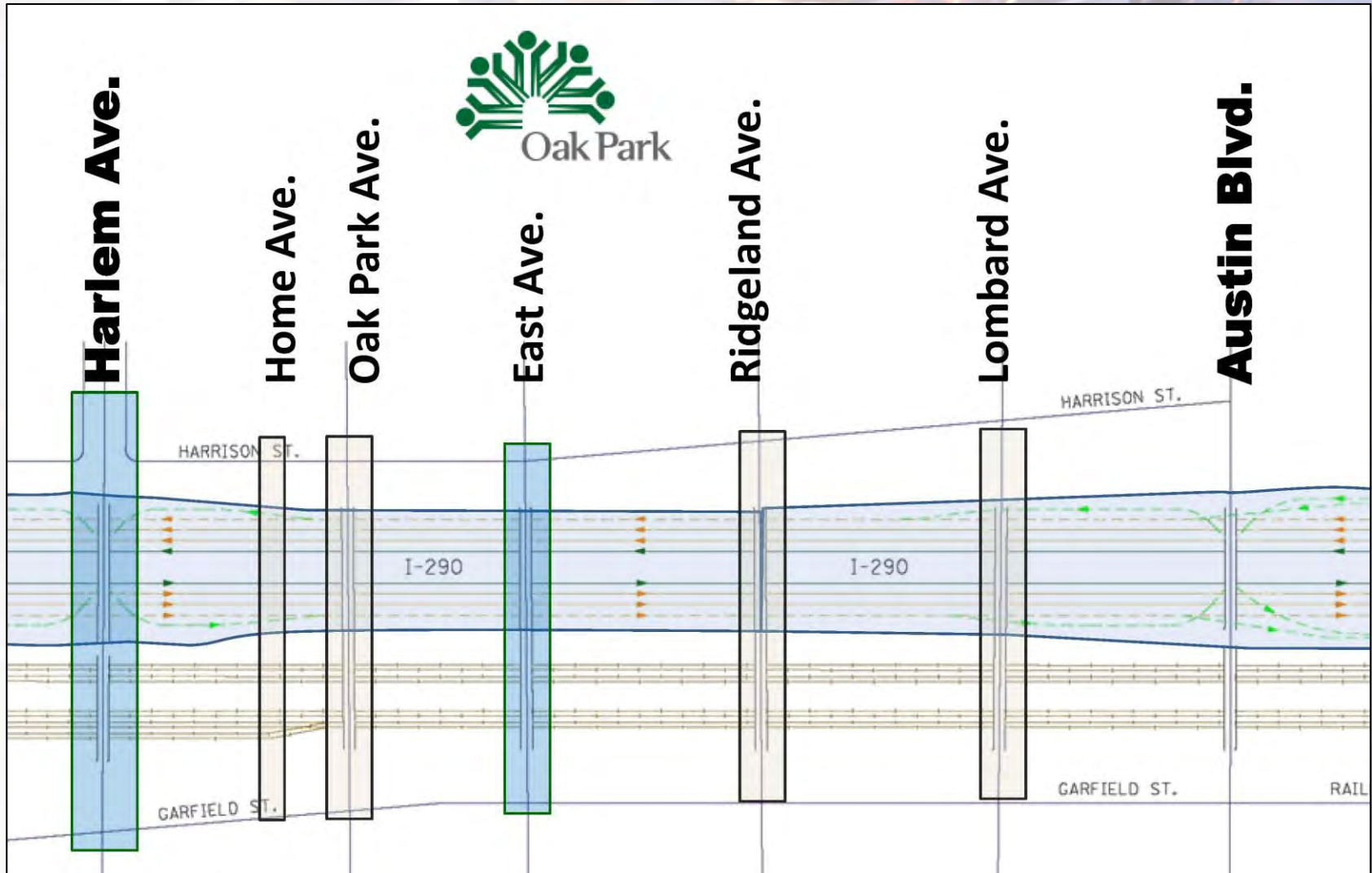




# CONCEPTUAL CONSTRUCTION SCHEDULE OAK PARK



## Mainline Work: *Year 4 & 5*

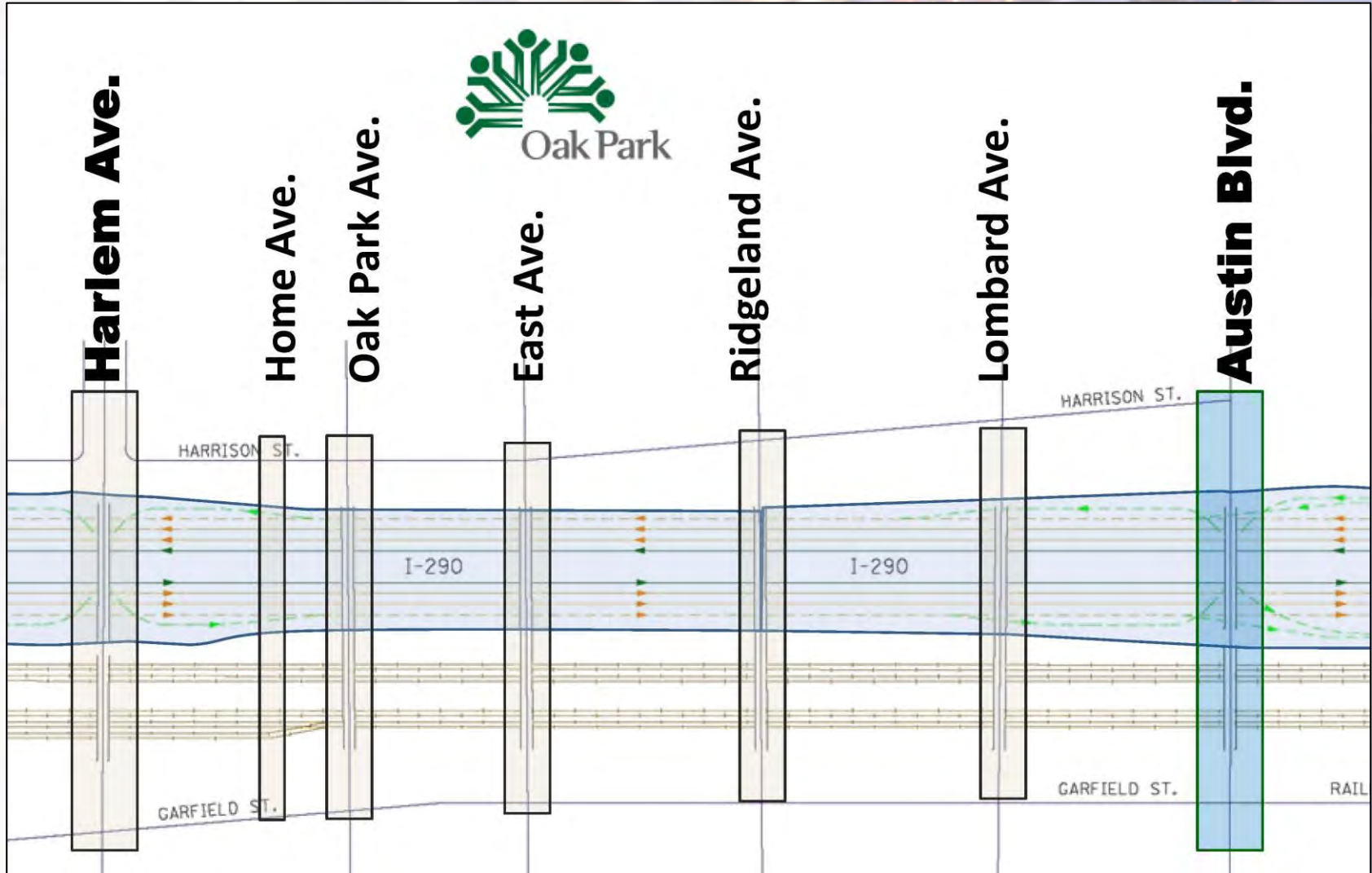


# CONCEPTUAL CONSTRUCTION SCHEDULE

## OAK PARK



**Mainline Work: Year 6 thru END**







- 8 Year Construction Schedule
  - 4 years for advance work/improvements
  - 4 years for mainline construction
- Key Schedule Drivers
  - IHB Railroad, CTA, and CSX Railroad bridges
  - Utility relocations

# CONSTRUCTION EFFECTS / MITIGATION CONCEPTS



Effect	General mitigation strategy
Vibration/settlement	Specifications – construction methods – monitoring
Noise	Specifications – restrictions as appropriate
Dust	Specifications – water trucks – demolition methods
Traffic patterns	Specifications – restrictions as appropriate – hotline
Time of day Nighttime mainline work	Specifications – restrictions as appropriate
Materials storage	Specifications – restrictions as appropriate

- Overall project balance
- Community, safety, cost, schedule





- Vibration/settlement specifications
  - No driven shafts allowed
- Monitoring
  - Identified locations and predefined threshold values
  - Monitoring of locations during construction
  - Corrective action and equipment shutdowns in areas if thresholds are exceeded



- Construction noise
  - Type of work
  - Day or night
  - Contractor means and methods
  - Balance





- Contracts include pay item for dust control
- Reduced vehicle speed on unpaved surfaces
- Cover haul vehicles
- Erosion control measures



- Detailed analysis & Coordination (design – phase II)
  - Sequence of work in each community
  - Likely construction effects and mitigation strategies
  - Local traffic patterns
  - Construction phase coordination/communication plan





- Communication (construction – phase III)
  - Local point of contact
  - Full time IDOT contact
  - Weekly contractor meetings (work to date, upcoming work)
  - Project hotline
  - Website
  - Flyers and signage



# Discussion