Alternatives

> Alternative 1 - Freeway/Expressway + Antelope Acres Bypass Option
  – Freeway: 6 lanes divided (I-5 to 300th Street West)
  – Expressway: 4-lanes divided (300th Street West to SR-14)
  – Antelope Acres Bypass Option (100th Street West to 70th Street West)

> Alternative 2 (Expressway/Conventional Highway)
  – Freeway: 6 lanes divided (I-5 to Gorman Post Road)
  – Expressway: 6-lanes divided (Gorman Post Road to 300th Street West)
  – Expressway: 4-lanes divided (300th Street West to 245th Street West)
  – Conventional Highway: 4-lanes limited access (245th Street West to SR-14)

> No Build
Freeway/Expressway (6-Lane Divided)

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Expressway (4-Lane Divided)

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Freeway/Expressway (6-Lane Divided)

**Highway Definitions:**
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Expressway (4-Lane Divided)

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions

[Diagram of an Expressway (4-Lane Divided) with various features such as access, utility poles, clear zones, and road widths.]
Limited Access Conventional Highway (4-Lane)

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Existing SR-138 (2-Lane Conventional Highway)

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Alternative 1

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
Alternative 2

Highway Definitions:
- Freeway: Access limited to interchanges
- Expressway: Access limited to intersections
- Conventional: Limited Access Restrictions
Common Features for Build Alternatives

- Improvement of non-standard features
  - Non-standard shoulder widths, vertical clearance standards for structures, horizontal and vertical curves, etc.

- Utility relocations

- Improvements to I-5 and SR-14

- Improvements to structures

- Revisions to SR-138 intersections and access

- Drainage improvements

- Enhancements for wildlife, pedestrian, and bicycle movements
Access Treatment Options

> Displaced left turns with median U-turns

> Right-in-right outs

> Grade separated interchanges

> Jug-handles

> Signals

> Vehicular overcrossings

> Roundabouts
Access Treatment Options: Displaced left turns with median U-turns (Samples)

Mainline Displaced Left-Turn Intersection*

**DESCRIPTION:**
Displaced left-turn control removes the conflict between left-turning vehicles and oncoming traffic by eliminating direct left turns at the main intersection. The left-turn crossover movement is provided for the eastbound mainline direction where drivers must enter the left turn lane through the median and stop prior to crossing opposing traffic. Drivers approaching from all other directions desiring to turn left must first travel through the at-grade main intersection and then execute a U-turn at the downstream median opening.

*Illustrations are conceptual and will be further refined in final design phase.

Mainline Restricted Crossing Median U-Turn Intersection*

**DESCRIPTION:**
Restricted crossing median U-turn intersections provide a free flow condition for the mainline allowing continuous travel through the intersection. However, this type of intersection restricts left turns from the mainline, and left turn/through movements from the intersecting local road. The intersection occurs in a right-in/right-out condition. Drivers desiring to turn left from the mainline and left/through from the local road onto and intersecting roadway must first travel through the at-grade main intersection and then execute a U-turn at the downstream median opening.

*Illustrations are conceptual and will be further refined in final design phase.
Access Treatment Options: Right-in-right outs (Sample)

Mainline Side Street Stop Controlled Intersection*

DESCRIPTION:
Side Street Stop Controlled intersections provide for a free flow condition for the mainline allowing continuous travel through the intersection. However, this type of intersection restricts left turns from the mainline, and left turns/through movements from the intersecting local road. The intersection operates in a right-in, right-out condition. Drivers desiring to turn left from the mainline and left through from the local road onto an intersecting roadway must first travel through a downstream at-grade intersection.

*Illustrations are conceptual and will be further refined in final design phases.
Access Treatment Options:
Grade separated interchanges (Sample)

Mainline Spread Diamond Interchange*

DESCRIPTION:
An interchange is described as a grade-separated intersection (one road passes over another) that requires the use of bridges and ramps to provide access to and from each of the crossing facilities. A Spread Diamond Interchange is characterized by flatter ramp slopes, minimum vehicle sight distance, increased ramp intersection spacing, and allows the flexibility of future expansion, however, Spread Diamond Interchanges also require an increase in construction and right of way costs, travel distance, and general appearance due to a larger footprint.

*Illustrations are conceptual and will be further refined in final design phase.
Access Treatment Options: Jug-handles (Samples)
Access Treatment Options: Signals (Samples)

Local Road Signalized Intersection at Ramp Termini*

**DESCRIPTION:**
Traffic signals are electrically operated traffic control devices that alternate in directing traffic to stop and to proceed on a timed interval. The primary function of a traffic signal is to assign right-of-way to conflicting traffic movements at an intersection, which is accomplished by allowing conflicting traffic to share the same intersection by utilizing timed separation. Traffic signals have a potential to reduce the severity and frequency of right-angle and left-turn collisions.

*Illustrations are conceptual and will be further refined in final design phase.

Mainline Signalized Intersection*

**DESCRIPTION:**
Traffic signals are electrically operated traffic control devices that alternate in directing traffic to stop and to proceed on a timed interval. The primary function of a traffic signal is to assign right-of-way to conflicting traffic movements at an intersection, which is accomplished by allowing conflicting traffic to share the same intersection by utilizing timed separation. Traffic signals have a potential to reduce the severity and frequency of right-angle and left-turn collisions.

*Illustrations are conceptual and will be further refined in final design phase.
Access Treatment Options: Vehicular overcrossing (Samples)

Mainline Tight Diamond Interchange*

DESCRIPTION:
An interchange is described as a grade-separated intersection (one road passes over another) that requires the use of bridges and ramps to provide access to and from each of the crossing facilities. A Spread Diamond Interchange is suitable where physical, geometric, or right of way restrictions do not permit a spread diamond configuration. Tight Diamonds take the disadvantage of requiring larger bridge structures, closely spaced ramp intersections, and restrict the flexibility of future expansion.

*Illustrations are conceptual and will be further refined in final design phase.
Access Treatment Options: Roundabouts (Samples)

Local Example: State Route 138 (Palmdale) Roundabout
Roundabouts - Local Example: State Route 138 (Palmdale)