The first phase of Red Line improvements provides additional track to help improve operational flexibility. There are also 2 additional stations added along the line at Broadmoor and McKalla as well as a reconfiguring of the existing Kramer station.

### MAIN WORKSHEET - Phase 1 Red Line Improvements

#### 10 GUIDEWAY & TRACK ELEMENTS (route miles)
- **10.01** Guideway: At-grade exclusive right-of-way
- **10.02** Guideway: At-grade semi-exclusive (alkoves cross-traffic)
- **10.03** Guideway: At-grade in mixed traffic
- **10.04** Guideway: Aerial structure
- **10.05** Guideway: Built-up fill
- **10.06** Guideway: Underground cut & cover
- **10.07** Guideway: Underground tunnel
- **10.08** Guideway: Retained cut or fill
- **10.09** Track: Direct fixation
- **10.10** Track: Embedded
- **10.11** Track: Ballasted
- **10.12** Track: Special (switches, turnouts)
- **10.13** Track: Vibration and noise dampening

#### 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)
- **20.01** At-grade station, stop, shelter, mall, terminal, platform
- **20.02** Aerial station, stop, shelter, mall, terminal, platform
- **20.03** Underground station, stop, shelter, mall, terminal, platform
- **20.04** Other stations, landings, terminals: Intermodal, ferry, trolley, etc.
- **20.05** Joint development
- **20.06** Automobile parking multi-story structure
- **20.07** Elevators, escalators

#### 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS
- **30.01** Administration Building: Office, sales, storage, revenue counting
- **30.02** Light Maintenance Facility
- **30.03** Heavy Maintenance Facility
- **30.04** Storage or Maintenance of Way Building
- **30.05** Yard and Yard Track

#### 40 SITEWORK & SPECIAL CONDITIONS
- **40.01** Demolition, Clearing, Earthwork
- **40.02** Site Utilities, Utility Relocation
- **40.03** Haz. mat', contam'd soil removal/mitigation, ground water treatments
- **40.04** Environmental mitigation, e.g. wetlands, historic/archeologic, parks
- **40.05** Site structures including retaining walls, sound walls
- **40.06** Pedestrian / bike access and accommodation, landscaping
- **40.07** Automobile, bus, van accessways including roads, parking lots
- **40.08** Temporary Facilities and other indirect costs during construction

#### 50 SYSTEMS
- **50.01** Train control and signals
- **50.02** Traffic signals and crossing protection
- **50.03** Traction power supply: substations
- **50.04** Traction power distribution: catenary and third rail
- **50.05** Communications
- **50.06** Fare collection system and equipment
- **50.07** Central Control

#### 60 ROW, LAND, EXISTING IMPROVEMENTS
- **60.01** Purchase or lease of real estate
- **60.02** Relocation of existing households and businesses

#### 70 VEHICLES (number)
- **70.01** Light Rail
- **70.02** Heavy Rail
- **70.03** Commuter Rail
- **70.04** Bus
- **70.05** Other
- **70.06** Non-revenue vehicles
- **70.07** Spare parts

#### 80 PROFESSIONAL SERVICES
- **80.01** Preliminary Engineering
- **80.02** Final Design
- **80.03** Project Management for Design and Construction
- **80.04** Construction Administration & Management
- **80.05** Insurance
- **80.06** Legal; Permits; Review Fees by other agencies, cities, etc.
- **80.07** Surveys, Testing, Investigation, Inspection
- **80.08** Start up

#### 90 UNALLOCATED CONTINGENCY
- **90.01** Unallocated Contingency as % of Base Yr Dollars w/o Contingency
- **90.02** Total Contingency as % of Base Yr Dollars w/o Contingency

#### 100 FINANCE CHARGES
- **100.01** Interest, equity contributions, and other financial charges

---

### Draft Estimate Developed Oct 2019