Kick-Off Meeting & One-Page Summary Sheet

1) Kick-Off Meeting

The Firm shall hold a kick-off meeting prior to beginning work. See Scope of Services for additional information.

a. The Firm held a kick-off meeting

2) One-Page Summary Sheet

Within three weeks of the Kick-off meeting, the firm shall prepare and submit a one-page summary of the project. See Scope of Services for additional information.

a. Firm submits One-Page Summary to Project Engineer for review.
b. Summary Sheet describes the project area, corridor timing needs, and overall objectives of the project.
c. Project Engineer Send any requested changes to Firm
d. Firm updates and distributes One-Page Project Summary Sheet to pertinent staff. Pertinent staff includes, at a minimum, attendees of the Kick-Off Meeting, SSTO Project Engineer, State Signal Systems Engineer, Division Traffic Engineer, Deputy Division Traffic Engineer, and Regional Traffic Engineer.

Preliminary Submittal

3) Ensure that the Preliminary Submittal includes all of the following documents:

a. Preliminary Report (PDF)
b. Existing Signal Timing Database files (*TransLink32*, *Centracs*, etc.)
c. Proposed Signal Timing Database files (*TransLink32*, *Centracs*, etc.)
d. *Synchro* and *Tru-Traffic* files of all existing timing plans
    i. *Tru-Traffic* files shall include trip logs of "Before" runs
e. *Synchro* and Tru-Traffic files of all proposed timing plans
f. Turning movement counts
g. Proposed Time-of-Day schedule
h. Signal plans for all signals in the system

4) Preliminary Report

a. Table of Contents
b. Section 1 – Executive summary
   A brief synopsis of the existing system and the subsequent analysis.
c. Section 2 – Study Area
    i. *Overall corridor map, including a listing of each intersection (with signal inventory number)*
    ii. *Master controller (if applicable)*
    iii. *Communication details (fiber, wireless, GPS, none)*
    iv. *Existing signal system zones (if applicable)*
    v. *Special signal timing requirements (pedestrian phases, FYAs, Fire/Railroad pre-emption, etc.)*
    vi. *Facility type, purpose of route, operational objectives*
    vii. *One-Page Summary Sheet*
d. Section 3 – Turning Movement Counts
    i. *Map and location of existing and new counts*
    ii. *Methodology of developing volumes for intersection without tuning movement counts (growth rates, trip generation, trip distribution, interpolation, etc.)*
    iii. *Identify traffic flow characteristics*
    iv. *Table showing counts, who did them, and the date and peak periods counted*
e. Section 4 – Existing Timing Plans
    i. *Existing time-of-day schedule and cycle lengths*
    ii. *Discrepancies between timing databases and latest signal Plans of Record*
    iii. *Discrepancies between signal Plans of Record and current conditions*
    iv. *Dates and times of "Before" travel time runs*
    v. *Information about System, Master, # of timing plans, etc.*
f. Section 5 – Field Observations of Corridor
    i. *Observations from "Before" travel time runs – including any issues related to deficiencies, safety, geometrics, pavement markings, signal heads, etc.*
    ii. *Summary of Division/citizen concerns and complaints*

g. Section 6 – Proposed Timing Plans
   i. *Identify performance measures*
   ii. *Define prioritization*
   iii. *Define operational objectives*
   iv. *Changes to Zones (if applicable)*
   v. *Identify critical intersections*
   vi. *Cycle lengths for each plan*
   vii. *Special Timing (half cycle, uncoordinated intersections, lead/lag, etc.)*
h. Section 7 – Proposed Time-of-Day/Day-of-Week schedule
i. Section 8 – Schedule of Proposed Implementation and Fine-Tuning
j. Section 9 – Preliminary Recommendations
   i. *Separate the signal operations recommendations from other recommendations*
   ii. *Classify the recommendations by their added benefit to operation or safety (i.e. high/medium/low)*
k. Section 10 – Appendices
   i. *Kick-Off Meeting minutes*
   ii. *Turning Movement Counts*
   iii. *Traffic routing methodology and results (if explanation is needed)*
   iv. *Field Data sheets*
   v. *Red-lined signal plans*
   vi. *Tru-Traffic travel time & delay report (Before Runs)*
   vii. *Synchro Output Files (Existing & Proposed)*
   viii. *System Detector Volume Graphs*

5) Synchro

During review, note that V/C Ratio, Actuated g/C Ratio, Approach Delay, Total Delay, LOS, Queue Length, and optimal Green Band and Lead/Lag usage are all used as measures of effectiveness to assess the model.

Verify accurate coding of each of the following for all *Synchro* files:

a. System Map
   i. Directional orientation of the system map conforms to the signal design plans.
   ii. The arterial and cross streets are clearly labeled.
b. Lane Settings
   i. Lane Configuration
   ii. Street Names
   iii. Link Distances
   iv. Link Speeds
   v. Lane Widths
   vi. Saturation Flow Rate
   vii. Grades
   viii. Area Type CBD
   ix. Storage lengths
   x. Storage lanes
   xi. Right Turn Channelized
   xii. Add Lanes
   xiii. Lane Utilization Factor
   xiv. Right-Turn on Red
c. Volume Settings
   i. Traffic Volumes
   ii. Conflicting Pedestrians
   iii. Peak Hour Factor
   iv. Link OD Volume
   v. Bus Blockages
   vi. Adjacent Parking Lane
   vii. Heavy Vehicle Percentage
d. Node Settings
   i. Zone
   ii. Control Type
   iii. Cycle Length
   iv. Offset
   v. Referenced Point
   vi. Reference Phase
   vii. Master Intersection
e. Timing Settings
   i. Turn Type
   ii. Protected Phase
   iii. Permitted Phase
   iv. Recall Mode
   v. Detector Phase
   vi. Switch Phase
   vii. Minimum Initial
   viii. Minimum Split
   ix. Total Split
   x. Yellow Time
   xi. All-Red Time
   xii. Lost Time Adjust
   xiii. Lagging Phase
   xiv. Allow Lead/Lag Optimize?
f. Phasing Settings
   i. Vehicle Extension
   ii. Minimum Gap
   iii. Time Before Reduce
   iv. Pedestrian Phase
   v. Walk Time
   vi. Advance Ped Walk
   vii. Flashing Don't Walk
   viii. Dual Entry
   ix. Fixed Force Off

g. Simulation Settings (if applicable)
   i. Taper Length
   ii. Lane Alignment
   iii. Turning Speed
   iv. Median Width
   v. Crosswalk Width
   vi. TWLTL Median
   vii. Headway Factor
   viii. Positioning Distance
   ix. Mandatory Distance
   x. Enter Blocked Intersection
   xi. Permitted Flashing Yellow

h. Settings Match Timing Database
   i. Cycle Lengths
   ii. Offsets
   iii. Split Values
   iv. Phase Sequence
   v. Offsets

6) Tru-Traffic

Verify accurate coding of each of the following for all *Tru-Traffic* files:

a. Network Parameters – General Tab
   i. Timing Plan Name
   ii. Timing Plan Number
   iii. Cycle Length
   iv. Time-of-Day

b. Arterial Timings Diagram Parameters – Artery Tab
   i. Arterial Name
   ii. Forward Direction
   iii. Offset Reference Point

c. Intersection Parameters
   i. Name Tab
      1. Intersection Name
      2. Distance
      3. ID Number (SIN)
      4. Cycle Length
      5. Offset
      6. Reference Point
   ii. Timings Tab
      1. Splits
      2. Phase Sequence
      3. Movement Settings
      4. Verify Ped Times
      5. Verify Ped Settings
      6. Yellow Times
      7. All-Red Times
      8. Minimum Splits
   iii. Lanes Tab
      1. Lane configuration matches design plan

d. Settings Match Timing Database
   i. Cycle Lengths
   ii. Offsets
   iii. Split Values
   iv. Phase Sequence

7) Timing Database

The timing database is the data that will be in the controller on the street, so it is the reference point against which all other data should be checked.

Verify accurate coding of each of the following for all timing database files:

a. Master Controller Database (if applicable)
   i. Master Properties (Task 4, Scope of Services)
      1. Master Asset ID and System designation are correct.
   ii. Master Graphics (Task 5, Scope of Services)
      1. All intersections and detectors are depicted and labeled.
      2. All phase depictions and intersection descriptions are correct.
   iii. 2, Master Settings
      1. Detector Sample Period is set to 15 minutes
      2. Comm. Fail Timeout is set to 0
   iv. 3, Zone Assignments (if applicable)
      1. Intersections are assigned to the correct zones
   v. 4, System Detectors (Task 5, Scope of Services)
      1. System detectors are associated with the correct intersections and local detectors as detailed on the signal design plan and electrical details.
   vi. B, Scheduling (Task 7, Scope of Services)

1. All TOD events are programmed and operational (for all zones, when applicable)

vii. D-4, Logging Controls
1. All logging is enabled

b. Local Controller Database

i. Local Properties
1. Local Asset ID and intersection designation are correct

ii. 2-1, Phase Control
Ensure all phase control parameters detailed on the signal design plan and electrical details are accurately programmed. Consult the Division regarding discrepancies related to these parameters.
Parameters include, but are not limited to:
1. Soft Recall
2. Minimum Recall
3. Dual Entry
4. Simultaneous Gap
5. Inhibit Max (Coord)
6. Variable Initial
7. Gap Reduction
8. Backup Protection
9. Dynamic/Backup

iii. 2-2, Dynamic/Backup Control Functions
1. Parameters match Electrical Details, when applicable

iv. 3, Phase Timing
1. All applicable phase timing parameters are programmed as depicted in the Timing Chart on the signal design plan. Although minor deviations are permitted for some parameters (as indicated on the plan), the Division should be consulted when major deviations are programmed.

v. 4, Phase Sequence
1. Phase Sequence Page 1 is programmed in accordance with the signal design plan.

vi. 7-1, Vehicle Detector Assignments
1. Local vehicle detectors used as System Detectors are enabled and enabled to log

vii. 7-2, Pedestrian Detector Assignments
1. Pedestrian detectors are enabled and enabled to log

viii. 7-3, General Vehicle Detector Settings
1. Logging Period is set to 15 minutes.

ix. 9, Coordination
The following parameters are programmed correctly:
1. Cycle Length
2. Min Transition Cycle
3. Max Transition Cycle
4. Coordinated Phase(s) Enabled
5. Splits sum to Cycle Length
6. Secondary Phase Timing pages used (i.e. not Page 1 for Free run)
7. Secondary Phase Sequence pages used (i.e. not Page 1 for Free run)

x. B, Scheduling
1. Scheduled events are accurately programmed, reflect the schedule detailed in the report, and include holiday event scheduling.

xi. D-2, General Comm Config
1. Comm Fail Return to TOD
    a. Master Local set to 0
    b. All Other Locals set to 15

xii. D-4, Logging Controls
1. All logs enabled