To: Signal Timing and Optimization Course Team

From: John Albeck

Date: February 26, 2010

Subject: Signal Timing & Opt. Meeting Notes

ALBECK + ASSOCIATES

Attendees

The following is the contact list for the updated Signal Timing and Optimization Course.

Name	Email	Attended Meeting
John Albeck	jalbeck@albeckinc.com	X
Jerry Kotzenmacher	Jerry.kotzenmacher@state.mn.us	X
Kevin Swartz	Kevin.Swartz@state.mn.us	X
Tim Bangsund	Timothy.Bangsund@state.mn.us	X
Martin Carlson	Martin.Carlson@state.mn.us	X
Paul Jung	Paul.jung@state.mn.us	X
Sue Zarling	Susan.Zarling@state.mn.us	X

Background

The individuals listed above (x in attended meeting column) participated in the meeting. The project website can be accessed by visiting www.albeckinc.com/MnDOT/MnDOT_Training_Projects.html. Click on the link to Signal Timing and Optimization.

Discussion Items

Below is a summary of my notes from the meeting. Please feel free to contact me with any additions or modifications.

General

- Introductions
- Reviewed the Course Information (Proposal description and audience)
- Class Dates, May 10-12, 2011
- Jerry has booked Dakota County for the class. Albeck will work with Dakota County for PC installation.
- All links will be confirmed and updated as needed

The following are the chapter by chapter discussions.

Introduction Chapter

- Class will still be 3-days
- Work on a single intersection first, then build up to a network

Chapter 1 – Overview

- No comments

Chapter 2

- Metro performs traffic counts from 6:00 to 9:30 a.mm and 2:30 to 6:00 p.m. If lunch counts are done, these are 10:30 a.m. to 1:30 p.m.
- Include a discussion on Tru-Traffic for travel time and delay studies.

Chapter 3

- Include additional instructions on Greenshield's equation (3.8 * 2.1n, where n is the number of queued vehicles).

- Include a discussion on time of day (TOD) operation for a single intersection (ie, max by TOD)
- Brief discussion on NTCIP
- More information on the flashing yellow arrow.
    - Jerry and Kevin have provided the FYA framework of operations. This framework will be edited for entry into the manual. More controversial issues, such as FYA with a shared through/left will not be included at this time.
    - The Signal Opt team will review the FYA section of the booklet and make comments.
    - The FYA section will also reference the guidelines on the website. It is anticipated that these guidelines will change before the 2013 updates to the manual. The website guidelines can be updated prior to any manual update.
    - Note that the FYA signal head is not a fixed operation. They can be changed on a TOD basis (such as run protected only at one time, and permitted at another)
    - Metro is currently using 4 detectors for the FYA. Martin and Kevin can confirm.
    - If retro-fit, 2 detectors can be used
    - Detector cross switching is not allowed for FYA. So, detectors are dual assigned phases.
    - If FYA is permitted only, protected phase is omitted by TOD
    - Specific controller/firmware framework is being internally developed by Mn/DOT. This will be referenced in the book and links will be provided.
- In overlap phasing (right turn), discussion of use of No U-turn or U-Turn Yield to Right turn signs.
- Include a discussion of twice per cycle left (TPCL)
- Delete the note on page 3-20 “Mn/DOT typically does not …..”
- Note that LOS criteria will be changing in the 2010 Highway Capacity Manual (leave as is for now)
- If time permits, have the attendees do a Critical Lane Analysis
- Include notes on controller start-up procedures. Confirm with the MUTCD. Albeck will work with Martin to get additional details on Metro’s startup process.

Chapter 4

- Section 4.2, delete the word “Density” in the title
- Check and confirm pedestrian timing requirements. Modify text and send to Opts. Team for review.
- Mn/DOT will calculate the pedestrian clearance and the yellow time is subtracted to determine the FDW controller input.
- Update references to ensure how to measure of crossing distance (get from MUTCD)
- RR preemption is only mentioned. It is too large of a topic to cover in this session and requires special attention.

Chapter 5

- Update the discussion on the Highway Capacity Manual with a mention to the 2010 methods
- TS/PP-Draft is now Tru-Traffic.
- Additional discussion on TOD plan operation.

Chapter 6

- The latest Synchro manual will be used in the book (for version 7).
- A very brief discussion of version 8 may occur

Chapter 7

- No comments

Chapter 8

- No comments

Appendix

- John will talk to Kevin, Paul and Tim about updates to Metro Checklists