APPENDIX 7
CAPITAL COST ASSUMPTIONS
COMMUTER RAIL MINIMUM OPERABLE SEGMENT (MOS)

GENERAL ASSUMPTIONS

UNIT PRICE SOURCES AND INFLATION

Unless noted otherwise in assumptions below or as comments in the worksheets, unit prices are generally taken from KRM project (Reference 38) which is in 2006 $. Inflation factors are taken from Corps of Engineers data (Reference 37 page A-31, year-to-year values), where, for example, inflation for 2006 to 2007 is 4.5%.

TRACK LENGTH INCLUDING SIDINGS

The overall mileage of reconstructed or new track is the 15.4 mile length of the MOS alignment plus approximately 1 mile of siding at St George Road. Ballasted track and subballast is required throughout.

The MOS alignment is from Peotone Road (Peotone) MP 38.9 to Broadway (Bradley) MP 54.4.

An alternate use of the same passing sidings and platform configuration quantities (i.e. same capital cost) would apply if the passing siding is moved north from Bourbonnais (St. George Road) to Manteno to place the passing siding in the middle of the MOS, instead of the middle of the FBO to make the MOS train schedule work better.

RAILROAD RIGHT OF WAY and STATION LAND

In general, the right of way (ROW) for a full double track KACOT railroad is assumed to be purchased from the railroad for the length of the MOS at the start of the project. However, as noted under track and station discussions elsewhere, the initial MOS system is assumed to be built as a single-track-with-passing-siding system. In the MOS, there is only one passing siding. In addition, there are two stub tracks at both of the end of line stations.

A 110-foot ROW is purchased from the CN where their tracks are shifted east because of existing industry leases on the west side of the railroad property. This occurs at the following mileposts: 40.0 to 41.2, 46.5 to 46.8, and 50.81 to 51.8, totaling 2.49 miles.

A 60-ft ROW is purchased where CN tracks aren't moved.

Railroad right-of-way (ROW) costs per acre are based on a purchase of CN ROW made by Manteno in 2006 (Reference 41) and escalated to 2007 prices.

No additional width of railroad ROW was assumed to be purchased in station areas. Land for parking is assumed to be adjacent to current railroad property and is priced separately based on local land prices from the Phase I study (Reference 39) escalated to 2007.

ROLLING STOCK

Assume FRA crash compliant DMUs in commuter rail service on separate tracks.

Fleet size is determined per the Phase I ridership and schedule (Reference 39). The Phase II MOS is shorter than the previous MOS, but ridership is greater, roughly balancing each other.

Four three-car trains (12 cars total) of 85' long DMUs are assumed as the total fleet per the Phase I study (Reference 39).

STATIONS

Platform lengths are set at 385' to accommodate four DMU vehicles in the future plus a stopping accuracy allowance of approximately one-half car length.

A standard package of communications is provided at each station. This includes public address (PA) from the train dispatching central control, closed circuit television, monitoring of the status of fare collection machines, emergency response voice communications with central control, etc.

ROAD CROSSINGS

Unless otherwise noted below, all road and highway at-grade crossings over the railroads are assumed to be in need of improvement and are upgraded with the following two improvements:

1.) Upgrades to constant warning time equipment will be provided. This railroad equipment will be coordinated with both railroads, KACOT and CN. Flashers, bells and gates will be moved as needed but current equipment is assumed to be adequate.

2.) New rubberized surface physical crossings of the roads over the rails will be installed. All roads are assumed to be 25' wide (two lanes) unless noted otherwise below.

CENTRAL CONTROL FACILITY

No operations central control (CC) was needed in Phase I because KACOT trains ran on CN tracks and were dispatched by that railroad. The cost for a new CC is included in this Phase II using a KRM costing model (Reference 38). It is based on a base cost plus a unit cost per control point.

FARE COLLECTION

Proof of payment strategy is assumed, per the Phase I study (Reference 39). Platform machines are built for outdoor use. They vend and/or validate tickets. Two machines are installed on each platform.

Central cash counting equipment is included as a percentage of ticket machines cost.

SIGNALING AT SIDINGS

No "CTC Control Point - End of Siding Interlocking" are used. Instead, in preparation for future full double tracking of the line, universal interlocking control points are installed at each end of the siding.

One "Train Control / Signaling: Intermediate Signal - Single Track (Bi-Direct.)" is used at approx MP 42.2.

Five "Train Control / Signaling: CTC Control Point - Universal Interlocking" are used. One at each crossover location along the alignment.

FILL

Estimated fill for new tracks is based on extrapolating visual estimates made on site visits in November 2006. Constant across-track width of 52' for fill assumed.

REFURBISHMENT OF TURNOUTS

Refurbishment of #10 turnouts is priced at $47,000 each from Kendall County Study (Reference 40) escalated to current dollars. Any relocation of a #10 turnout is also priced this way.

PROFESSIONAL SERVICES and CONTINGENCIES

Professional services covering all of the FTA's SCC categories are lumped as one value: 18%

Allocated contingency = 10%. Unallocated contingency = 20%.

ASSUMPTIONS BY MILEPOSTS

MP 38.90

PEOTONE STATION

The only infrastructure cost assumed for this station is an extension of the Metra platform. The MED platform and parking is provided by Metra while the station building is assumed to be provided by the Village of Peotone. A Metra center platform is assumed: 1400' long (2-8 car trains long). KACOT will add a standard length KACOT low level platform as a center platform extension to Metra plus stairs and ADA ramp to connect to the Metra platform.

Standard assumptions are made for fare collection equipment and station systems communications (including PA).

Assume one acre of "Clear and grub" in total, plus one standard site landscaping fee.

MP 38.9

N PEOTONE ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

One #15 turnout is required south of the platform to connect the two station platform stub end tracks.

Two #10 turnouts (crossover) are required south of the platform to link CN track 1 and KACOT track 1.

Completion of the universal crossovers with a trailing crossover to link KACOT tracks 1 and 2 is not required until track 2 is installed in the future.

One "Train Control / Signaling: CTC Control Point - Universal Interlocking" assumed for future expansion.

MP 39.8

HARLEM AVE

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP approx 40.0

FEDERAL PIPE AND STEEL

Refurbish one #10 turnout.

MP 40.30

CRAWFORD ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 40.5

MAIN ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 40.6

CORNING AVE

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 40.7

WILSON ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 41.1

WILMINGTON RD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 41.2

The station originally planned for this site in Phase I has been moved north to North Peotone Road. There is no longer a station at this site.

MP 42.20

KENNEDY ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

One "Train Control / Signaling: Intermediate Signal - Single Track (Bi-Direct.)" is installed in this vicinity.

MP 42.75

PRIVATE CROSSING

Assume that this crossing is not closed but improved for safety, but not road ride quality.

Standard grade crossing warning upgrades are assumed as noted in the General Assumptions above. No upgrade is made to the timber and gravel physical road crossing.

MP 43.30

COUNTY LINE ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 44.45

11000 N ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 45.60

10000 N ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP approx. 46.0

Two #10 turnouts (one crossover) is installed connecting CN Track 1 to KACOT track 1.

One "Train Control / Signaling: CTC Control Point - Universal Interlocking" required.

Refurbishment/relocation of #10 turnout (for Farmers Elevator) assumed.

MP 46.50

THIRD ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 46.70

FIRST ST

One upgrade of the pedestrian crossing warning device (double track) to constant warning time equipment is assumed.

MP 46.80

MANTENO STATION

Assume a single platform on single track at Manteno. One 380 ft platform assumed.

Assume one "At-grade station - standard" (building).

Standard assumptions are made for fare collection equipment and station systems communications (including PA).

No new station site plan has been made for the relocation of the station in this phase. A minimum platform and station building will be provided as per Phase I. No pedestrian underpass is needed because it is a single-track/single-platform station and is close to nearby crossing streets with sidewalks and pedestrian crossings.

Assume Manteno has already bought all required land including parking. Therefore, no land is required to be bought for this station. Assume total of 5 acres for parking will fit.

Assume 5 acres of "Clear and grub" in total, one standard site landscaping fee, and station surfacing costs for the total parking area (assuming 100 spaces per acre therefore 500 spaces).

DIVISION ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 46.90

ADAMS ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 47.5

ROCK CREEK BRIDGE

A new bridge structure would be required to accommodate two additional tracks for the proposed commuter rail service.

Assume the new bridge structure is required even if only one commuter rail line is initially constructed in the MOS. This will be an 85 foot ballasted deck single track span built on 32 ft wide abutments that have provisions for a second track.

MP 48.0

AMBERSTONE ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 48.7

CONCRETE CULVERT

Extension of concrete culvert structure to accommodate new track. This is one "Mod. / Extend Drainage Culvert".

[Note that when referring to the CN track schematics some confusion can arise. The schematics label this as a second crossing of Rock Creek. However, MP 47.5 is the only crossing of Rock Creek. For convenience herein, this has been labeled instead a drainage culvert.]

MP 49.78

6000N ROAD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP approx 50.0

Two new #10 turnouts to make a crossover from CN track 1 to KACOT track 1. One new #15 turnout to create the north end of KACOT track 2. Refurbish one #10 turnout for yard lead and industrial service.

One "Train Control / Signaling: CTC Control Point - Universal Interlocking" required.

MP 50.70

BOURBONNAIS STATION at ST GEORGE RD-5000N

Assume center platform station with a road crossing for pedestrian access at St. George Road.

Standard assumptions are made for fare collection equipment and station systems communications (including PA).

A new site plan has not been completed even though River Valley Metro has moved to the west side of the tracks at this crossing. Assume the parking lot area is the same as from the Phase I report (Reference 49, page A6-6) but rearranged.

Assume "Clear and grub" for the parking lot, one standard site landscaping fee, and parking lot surfacing costs for the total parking area.

Assume one station house is built per Phase I (Reference 39 page A6-6). This is represented by a "At-grade station - standard".

One KACOT standard length platform as indicated in phase I report (reference 39, page A6-6).

MAINTENANCE AND STORAGE FACILITY

The maintenance and storage quantities can be taken from Phase I (Reference 39). No preliminary layout specific to the St. George Road site or anywhere else has been completed.

Total price for "End of Line DMU Yard and Shop Facility Costs" used as prices from Phase I report (Reference 39 page A8-6).

Current assumption is that the Central Control Facility will be located here. However, that assumption does not impact costs since it could be located anywhere along the line at the same cost. See General Assumptions above for discussion of Central Control Facility costing assumptions.

MP 50.81

ST GEORGE RD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 51.35

MCKNIGHT RD

McKnight Road is now closed and indicated so on sheet 2 of the track schematics. No work to be done here.

MP 51.80

LARRY POWER RD

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

One #15 turnout for the south end of the Bourbonnais passing siding.

One "Train Control / Signaling: CTC Control Point - Universal Interlocking" required.

MP 52.40

I-57 OVERPASS

No modifications required

MP 52.85

ARMOUR RD OVERPASS

No modifications required

MP 53.80

NORTH ST

Standard grade crossing warning and physical road crossings upgrades are assumed as noted in the General Assumptions above.

MP 54.2

DRAINAGE STRUCTURE

Extension of concrete drainage structure required to accommodate new KACOT track. One "Mod. / Extend Drainage Culvert."

MP 54.3

BROADWAY ST

No modifications required - current bridge structure is satisfactory for this rail project.

BROADWAY STATION at BRADLEY

Assume a center platform (380 ft) between two tail tracks.
Although relocated from Brookmont Boulevard in Phase I, no new site plan has been completed. If the future full build out (FBO) must use a street running alignment through Kankakee, that change would likely occur here. Because of that and the existing bridge over Broadway is only single track when two bridges would be needed, the MOS station is assumed to be north of Broadway. If the FBO is street running, this station might be moved to street level in the future. Assume for MOS an "At-grade station - standard" station house is built.

Standard assumptions are made for fare collection equipment and station systems communications (including PA).

Pedestrian access is at grade behind (i.e. south of) the tail bumper posts. If the station is moved south of Broadway or when the future expansion of KACOT to a full build out (FBO) is completed, the pedestrian walkways along the Broadway underpass can be used to provide access to the center platform if an elevator is provided to satisfy Americans with Disabilities Act (ADA) requirements.

Assume a 5 acre parking layout will fit in Bradley. No new station site plan will be made. Provide a minimum platform and station building per Phase I.

Assume 5 acres of "Clear and grub" in total, one standard site landscaping, and station surfacing costs for the total parking area.

One #15 turnout to create the two end of line stub tracks around the platform.

One "Train Control / Signaling: CTC Control Point - Universal Interlocking"