

## Revised Example Road User Cost (RUC)

Road User Costs are established to negate the effects of construction time to the traveling public. This is a road user cost calculation sheet based on one used by Missouri DOT. It incorporates many parameters into the road user cost based on ADT, Detour or Bypass costs, speed reductions, and new facility vs. existing facility costs to the traveling public.

Required Data in Blue Fields

Automatic Calculation in Yellow Field

Final Calculation in Purple Field

These cases will use the following information in determining Road User Cost. Please fill out this information then continue on to the next section.

Case 1 - Detour or Bypass Situation .

Case 2 - Speed Reduction Situation.

Case 3 - New Facility Compared to Existing Facility.

The Final Road User Cost Calculation will be totaled on the last page.

Contract #: CMGC / ABC I-40 Project

County : Davidson

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## Contract Administration Cost

Initially a cost for administration of the project should be incorporated into the road user cost (RUC).

Estimated project cost.

\$55,000,000

Number of **calendar working** days allowed.

32.5 days

#VALUE!

\*Contract Administration Cost [(0.10) x (estimated costs) / (230calendar days)]

\$23,319 per day

\*NOTE: If calculated contract administration cost is less than \$100, use \$100.

## Truck Use and ADT

Construction year ADT.

136250 vehicles per day

Percent trucks.

10 %

Average number of trucks per day.

13625 Trucks

Average number of cars per day.

122625 Cars

Total Number of Lanes

6

## Case 1 - Detour Or Bypass Situation

Length of current section.	<b>12144</b>	feet	2.3
Speed limit along current section.	<b>55</b>	miles per hour	
Speed limit along current section.	<b>4840</b>	feet per minute	
Time to travel current section.	<b>2.51</b>	minutes	
Proposed length of detour.	<b>31152</b>	feet	5.9
Speed limit along detour.	<b>55</b>	miles per hour	
Speed limit along detour.	<b>4840</b>	feet per minute	
Time to travel detour.	<b>6.44</b>	minutes	
Delay time.	<b>3.93</b>	minutes	
Road user cost per day for trucks. [\$40.00 per hour]	<b>\$35,673</b>	per day	
Road user cost per day for cars. [1.2 people per car @ \$7.75 per hour]	<b>\$74,645</b>	per day	
Total road user cost per day.	<b>\$110,318</b>	per day	

## Case 2 - Speed Reduction Situation

Length of section.	31152 feet
Current speed limit along section.	55 miles per hour
Current speed limit along section.	4840 feet per minute
Time to travel current section.	6.44 minutes
Reduced speed limit along section <i>(estimated operating speed may be used where speed limit is not reduced, but lane widths are restricted or other obstacles are present which will effectively slow traffic speed)</i>	40 miles per hour
Reduced speed limit along section.	3520 feet per minute
Time to travel section at reduced speed.	8.85 minutes
Delay time.	2.41 minutes
Road user cost per day for trucks. [\$17.50 per hour]	\$9,592 per day
Road user cost per day for cars. [1.2 people per car @ \$5.15 per hour]	\$30,485 per day
Total road user cost per day.	\$40,077 per day

### Case 3 - New Facility Compared To Existing Facility

Length of existing section.	12144	feet
Speed limit along existing section.	55	miles per hour
Speed limit along existing section.	4840	feet per minute
Time to travel existing section.	2.51	minutes
Length of new section.	15470	feet
Speed limit along new section.	55	miles per hour
Speed limit along new section.	4840	feet per minute
Time to travel new section.	3.20	minutes
Delay time.	0.69	minutes
Road user cost per day for trucks. [\$17.50 per hour]	\$2,731	per day
Road user cost per day for cars. [1.2 people per car @ \$5.15 per hour]	\$8,679	per day
Total road user cost per day.	\$11,410	per day

## Final Road User Cost Calculation

Contract Administration Cost	\$23,319
Case 1 - Detour Or Bypass Situation	\$110,318
Case 2 - Speed Reduction Situation	\$40,077
Case 3 - New Facility Compared To Existing Facility	\$11,410
<b>Total Road User Cost per working day.</b>	<b>\$185,124</b>
<b>Road User Cost per Lane per Day</b>	<b>\$30,854</b>
<b>Road User Cost per Lane per Hour</b>	<b>\$2,500</b>