

binary graph file format:
 Little-endian byte order

shortcut	type	byte
UI	unsigned int	4
F	float	4
D	double	8

graph	
UI	number of nodes
$ V \cdot \text{node}$	

node	
D	longitude
D	latitude
UI	elevation
UI	deg
$\text{deg}(\text{node}) \cdot \text{outEdge}$	

outEdge	
UI	targetID
UI	length in m
F	weight multiplier
UI	shortcutted nodeID (defaults to $2^{32} - 1$) = A
UI	shortcutted outEdge index of source = B
UI	shortcutted outEdge index of shortcutted node = C

traveltime metric: $\text{traveltime} = \text{length} \cdot \frac{1.3}{\text{weight}}$

If A is not $2^{32} - 1$ the current edge is a CH edge - it combines the B'th outEdge of the current source and the C'th outEdge of node A.

name file:

name file	
UI	number of nodes
$ V \cdot \text{node rank}$	

There are nodes with rank $2^{32} - 1$ - CH property is $\text{target_rank} \geq \text{source_rank}$.