

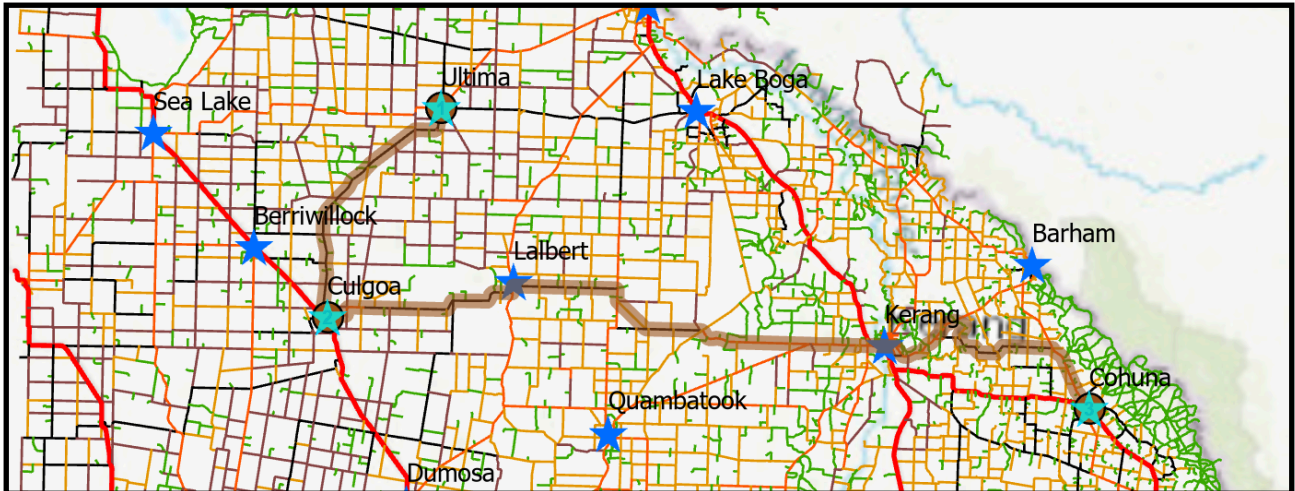
## GEMO 90008 Assessment 2.3

Username: zongchengd

StudentID: 1096319

Q1: One geo-database can have many feature datasets, and one dataset can contain multiple feature classes.

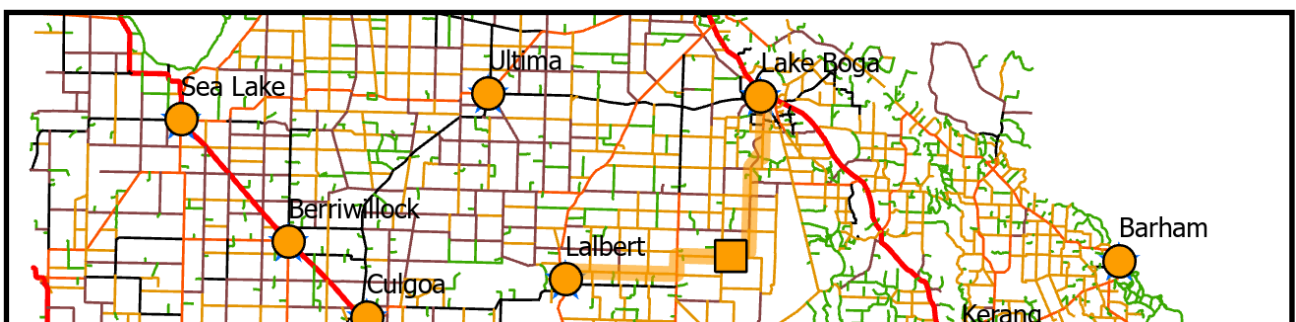
Q2: The optimal route between stops #1 (Ultima), #4 (Culgoa) and #19 (Cohuna) is shown in the following graph:



The total length of this optimal route is 155269m.

Q3: The first closest town is Lake Boga. The distance is around 22931m.

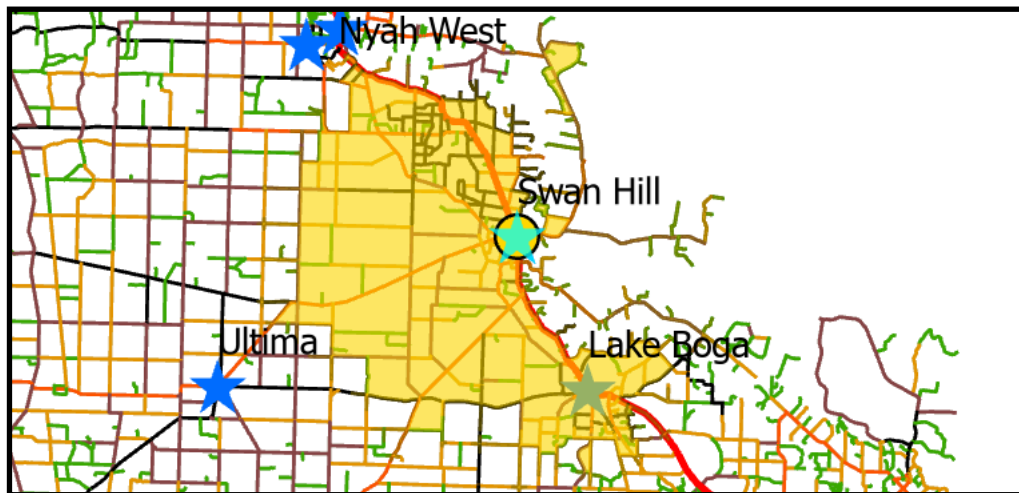
The 2nd closest town to site 1 is Lalbert. The distance is around 24081m.



	IncidentCurbApproach	FacilityCurbApproach	IncidentID	StartTime	EndTime	StartTimeUTC	EndTimeUTC	Shape_Length	Total_Length
	Left side of vehicle	Right side of vehicle	1	<Null>	<Null>	<Null>	<Null>	28261.771936	22930.888377
	Right side of vehicle	Left side of vehicle	1	<Null>	<Null>	<Null>	<Null>	29621.752713	24081.387401

Q4: The service area of Swan Hill is nearly a semicircle. The centre of the circle is the Swan Hill town, and the radius is 25,000m. I think, since it's a town nearly boundary, the area is not a circle.

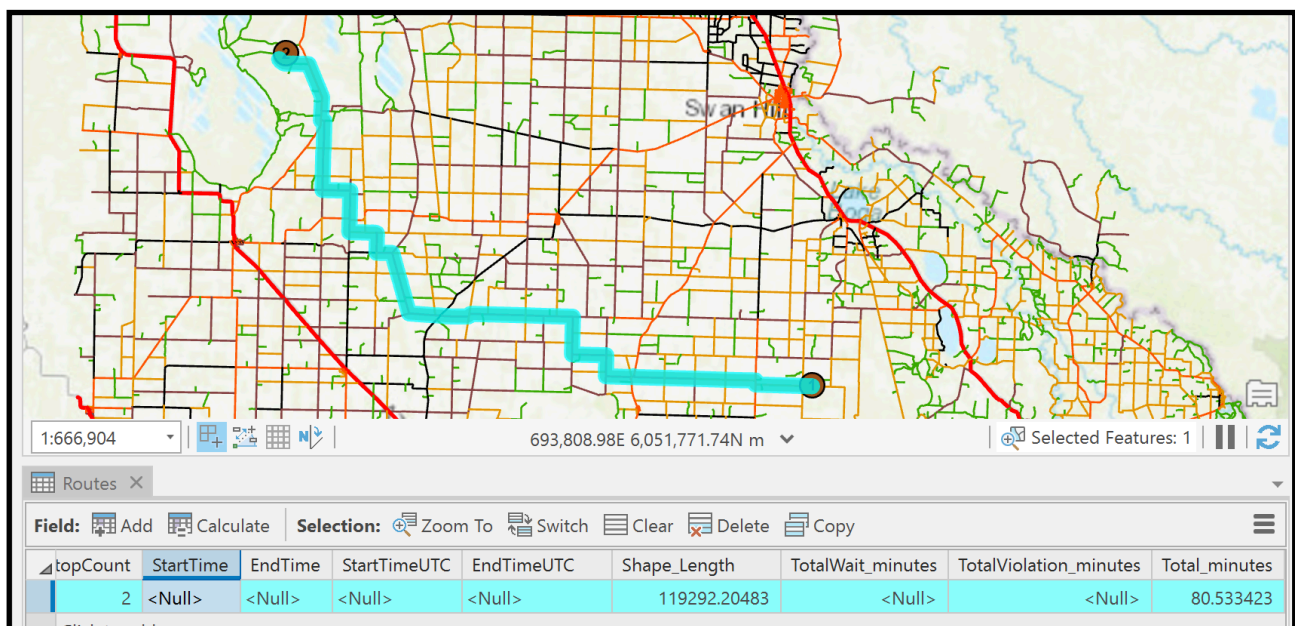
The yellow polygon is the service area.



Q5: I think the service area within 25 km of the township of Chinkapook is larger than that of Barham. There are 2 reasons. At first, the Chinkapook is in the centre area of the map while Barham is on the boundary. Besides, the roads around Chinkapook containing main roads are more than the roads around Barham which are mainly farm roads.

**The following questions are optional.**

Q6: The shortest time from Site 1 to Site 2 is 80.53 mins.

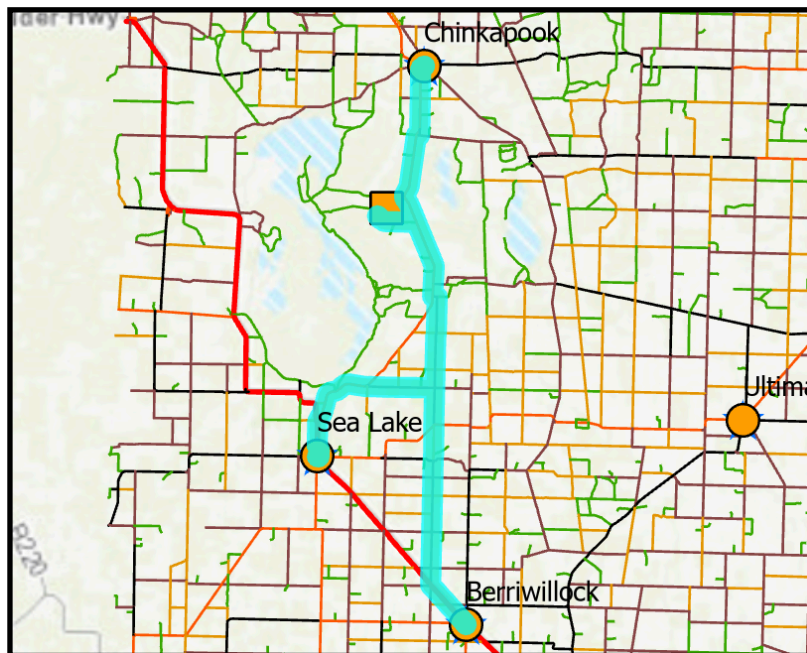


Q7: Two closest facilities (towns) to Site2 are Chinkapook and Sea Lake. The time from Chinkapook to Site 2 is 29.12mins. The time from Sea Lake to Site 2 is 39.13mins.

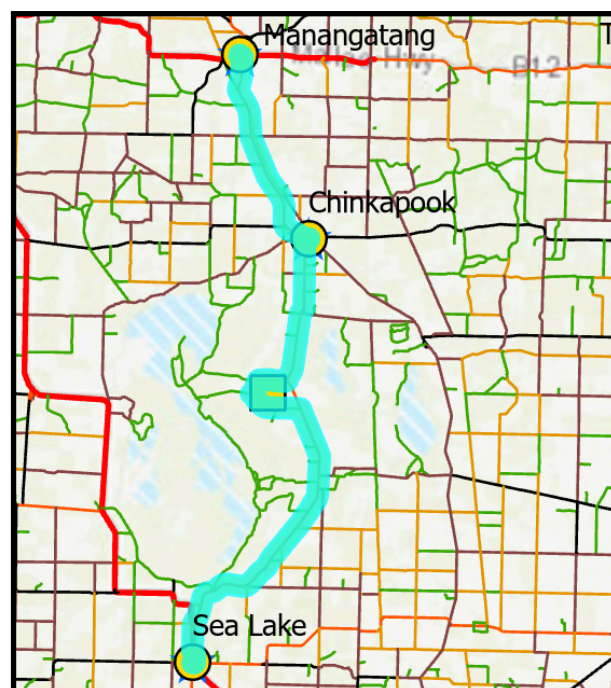
These shortest travel time routes are **not** different from the shortest distance routes. Site 2 is remote and there are few roads around it. Just in this case the 2 shortest distance routes are same with the 2 shortest travel time routes.

However, the three shortest travel time routes and three shortest distance routes are different.

The three shortest **travel time** routes are shown in following image:

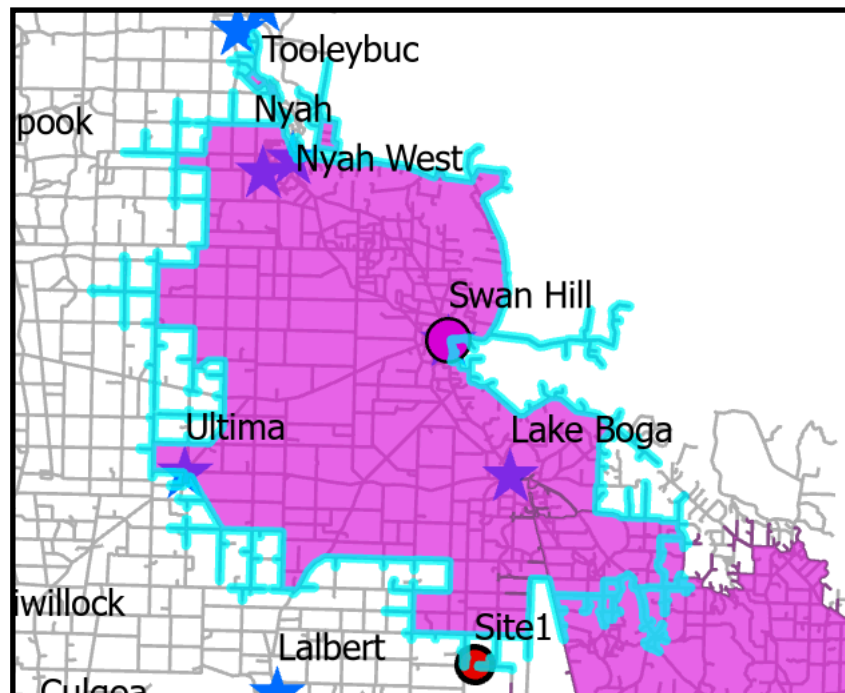


The three shortest **distance** routes are shown in following image:



Q8: Site1 lies in secondary school service area of Swan Hill.

The service area of Swan Hill is shown in following image:



The service area of Kerang is shown in following image:

