

Establishing Distances in the Book of Mormon

Establishing exact distances in the Book of Mormon is a problematic exercise and should be given a fair amount of latitude when evaluation geographic models. Outside of Lehi's travel on the Arabian Peninsula there are only six examples from the Book of Mormon text that gives us a hint in establishing approximate distances. However, in order to establish a creditable system for analyzing these distances its essential that we evaluate known travelers that have had a similar travel experience. The following chart outlines a sampling of various known travelers that have made trips under similar conditions. They are as follows:

#	Actual Travel Rates of Various Expeditions in Central America					
	Actual Travel Examples	Days	Miles	Kilometers	K/Day	M/Day
1	Coast of Western Panama	9	65.00	104.59	11.62	7.22
2	Cross the Istmus of Panama	27	45.00	72.41	2.68	1.67
3	Cortez-Lake Peten Itza to the Maya Mount.	12	19.80	32.00	2.67	1.65
4	Waka to Tikal (A Fire is Born)	8	48.75	78.00	9.75	6.09
5	Maya Traders - Around the Yucatan	40	1000.00	1,600.00	40.00	25.00
6	Father Ponce- From Tonalá to Ayutla	10	151.88	243.00	24.30	15.19
7	Porters - Rabinal to Coban	3	27.50	44.00	14.67	9.17
8	Lacandons - Chotal to Coban	8	88.13	141.00	17.63	11.02

A detailed explanation of these travel occurrences will be found in the notes and the end of the report,

It is interesting to note that the Hole in the Rock travelers averaged just over one mile a day after they had passed through the Hole in the Rock and they had horses and wagons.

Based on this sampling of known trips, a Travel Rate Matrix has been set up in order to establish "travel rate" standards that can be used to evaluate the instances of travel that are found in the Book of Mormon. "Slow" travel capabilities would likely be a group of people which included women and children who are carrying their belongings (no hand carts or horses). They could also be herding flocks of sheep or goats.

Travel Rate Guidelines/Standards				
Kilometers Per Day				
Travel Capabilities	Level of Difficulty			
	Very Difficult	Difficult	Moderate	Easy
Slow	4	9	14	20
Normal	7	14	21	30
Fast	10	20	30	40

These travel standards have a wide range of travel rates and these are due the capabilities of the travel and the difficulties that may be encounters while traveling. According to this chart these rates can vary from 4 to 40 kilometers a day. This study is certainly not conclusive and an extensive exhaustive study could prove to be different, however, there would not be significant changes on the lower end.

A significant factor in the establishment of the "difficulty" value that exists between the city of Nephi and the city of Zarahemla is the fact that three strong search parties set out to find Zarahemla in two cases and the city of Nephi in the other. In all three cases, strong groups of men were selected to go on the search of these two cities and in two cases they failed, they could not find the cities. In another case, a group strong man from Zarahemla set out to find the city of Nephi and it took them forty days. This was a very difficult route and it appears that it was lacking a trail. The picture to the right is a picture of a dense jungle that was taken at Cancuen, near the halfway point between Helam and Zarahemla.

The following chart outlines eight times that a significant journey was made that had some hint of how long it took.

List of Significant Travel Occurrence Found in the Text of the Book of Mormon											
#	Traveler	Destinations		Conditions		BoM Days	Travel		Kilometers		
		Beginning	Ending	People	Land		Air	Actual	K/Day	Standard	Variance
1	Alma	Valley of Alma	Land of Zarahemla Central Peten	Slow	Difficult	12	100	110	9.2	9.0	1.0
2	Alma	Helam Tactic	Valley of Alma San Juan	Slow	Moderate	1	11	14	14.0	13.0	1.1
3	Alma	Mormon Bio del Qetzal	Helam Tactic	Slow	Difficult	8	26	50	6.3	7.0	0.9
4	Ammon	Zarahemla Ceibal	City of Nephi Tzalcom	Fast	Very Difficult	40	160	180	10.0	7.0	1.4
5	Limhi Explores	City of Nephi Tzalcom	Jaredite Territory	Fast	Difficult	Many					No days mentioned
6	Nephite	East End Fortification	West End Fortification	Normal	Difficult	1	12	12	12.0	14.0	0.9
7	Alma	Land of Melek Aquateca	Ammonihah Itzimte	Normal	Moderate	3	69	74	24.7	23.0	1.1
8	Limhi	City of Nephi Tzalcom	Land of Zarahemla Ceibal	Slow	Difficult	Many					No days mentioned

It is interesting to note that some of the current Book of Mormon models (see table below) correspond very well to the travel rates that have been outlined above. This especially true of the Sorensen model. One of his main contributions to the quest in finding the lands of the Book of Mormon was his sense of distance. In addition, as we have participated in touring the regions between Salama and Flores, members of the tour group have expressed concern about the abilities of the Book of Mormon travelers to even achieve these conservative travel rates that have been suggested in this report.

Approximate Air Miles of Alma's Travels

Models	Valley of Alma		Helam	
	Zarahemla City	Land of Zarahemla	Zarahemla City	Land of Zarahemla
Sorenson & a number of others	61	28	80	41
Hauck-Anderson	47	16	52	22
Pasion River	72	60	81	74
Magelby	163	165	170	168

The following list outlines a more detailed description of each of the significant journeys that were undertaken by different groups in the Book of Mormon

1. The distance of twelve days between Helam and Zarahemla

Mosiah 24

*25 And after they had been in the wilderness **twelve days**, they arrived in the land of Zarahemla; and king Mosiah did also receive them with joy.*

It took Alma thirteen days to get to Zarahemla. Their rate of travel is approximately eight miles per day which seems on the low side but when you consider the fact that they were traveling with women, aged seniors, possibly ill people that required stretchers, children and flocks the rate seems more appropriate. In addition, they had to carry grain, tents and other supplies as well as going through difficult terrain and a dense jungle. And they did not have hand carts. The Book of Mormon tells of two other groups that had a difficult time traveling between Nephi and Zarahemla. Ammon and company actually got lost and had to return and the Limhi expedition could not find Zarahemla. Therefore, it doesn't appear that there was much of trail to follow. This picture was taken at Cancun which would be about at the halfway point in Alma's journey to Zarahemla.



2. The one-day journey between Helam and the Valley of Alma

Mosiah 24

17 And he said unto Alma: Thou shalt go before this people, and I will go with thee and deliver this people out of bondage.

18 Now it came to pass that Alma and his people in the night-time gathered their flocks together, and also of their grain; yea, even all the night-time were they gathering their flocks together.

*20 And Alma and his people departed into the wilderness; and when they had traveled **all day**, they pitched their tents in a valley, and they called the valley Alma, because he led their way in the wilderness.*

It is interesting to note that after Alma and his people had traveled for only one day, they seemed to have felt secure. After they had settled down and set up their tents the Lord told them "*haste thee and get out of this land*". Could this have been due to the possibility that they had traveled into Nephite territory? The Pasion River model has accommodated this scenario by placing Helam just south of the narrow strip of wilderness (the barrier between the Nephites and Lamanites) and just east of the Gap which allows travelers to pass back and forth. This allowed Alma to reach friendly territory in just one day. See photo below:



3. The distance of eight days between the Waters of Mormon and Helam

Helaman 18

32... on the day that they were assembling themselves together to hear the word of the Lord they were discovered unto the king.

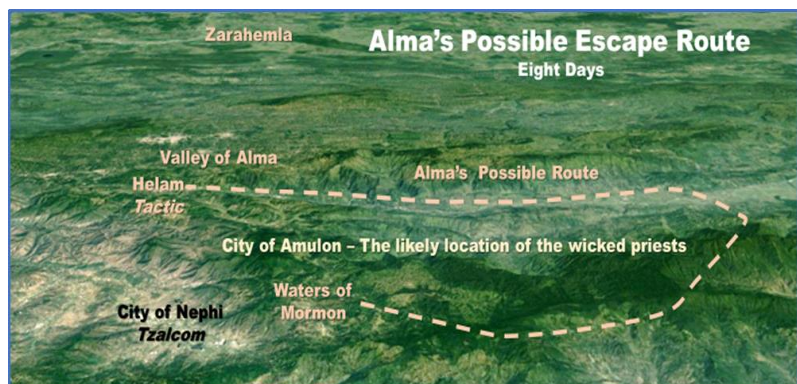
34 And it came to pass that Alma and the people of the Lord were apprised of the coming of the king's army; therefore, they took their tents and their families and departed into the wilderness.

Helaman 23

*3 And they fled **eight days'** journey into the wilderness.*

4 And they came to a land, yea, even a very beautiful and pleasant land, a land of pure water.

The third example is found in Mosiah 18 where Alma and company were assembled and were "apprised of the coming of the King's army" and they departed into the wilderness. Later in Mosiah 23 "it was made known to his people" they the armies of king Noah would come upon therefore the departed into the wilderness. It is not known what direction they



went or what route they took but they had to avoid the Priest of Noah who were likely in the northern part of the land and it took them eight days to reach Helam. It is likely that they had to circle around through the rugged Sierra De La Minas mountains. (See map)

They could not go west because they would run into king Noah who would be in city of Nephi. They could have gone south and circled around the land of Nephi and approached the gap in from a north easterly direction but that would have also taken a considerable amount of time.

4. Ammon's 40-day journey to the land of Nephi

Mosiah 7

2 And it came to pass that king Mosiah granted that sixteen of their strong men might go up to the land of Lehi-Nephi, to inquire concerning their brethren.

4 And now, they knew not the course they should travel in the wilderness to go up to the land of Lehi-Nephi; therefore, they wandered many days in the wilderness, even forty days did they wander.

5 And when they had wandered forty days they came to a hill, which is north of the land of Shilom, and there they pitched their tents.

Ammon and his companions were only able to manage a travel rate of only 4.5 kilometers per day. Their experience is very helpful in establishing the "difficulty value" for this distance between Zarahemla and the city of Nephi. This journey along with the trips of Zeniff and the Limhi explores are helpful in establishing just how difficult this route is. These journeys represent a route that is lacking in trails. In addition they probably experienced a great deal of thick jungle foliage and water systems.

4. Limhi's attempt to Zarahemla

Mosiah 21:25 Now king Limhi had sent, previous to the coming of Ammon, a small number of men to search for the land of Zarahemla; but they could not find it, and they were lost in the wilderness.

Limhi sent a small number of men to search for the land of Zarahemla and apparently because of the lack of roads or trails they could not find Zarahemla. They knew that Zarahemla was on a river so they probably planned to follow the river down to Zarahemla and it appears that they went down the wrong river. This problem illustrates the challenge others had as they traveled, they made that route

5. **The fortified narrow neck of land provides a solution the length of "a day of a Nephite".** This distance provides additional information on the number of miles that a man could cover in one day.

*Helaman 4:7 And there they did **fortify** against the Lamanites, from the west sea, even unto the east; **it being a day's journey for a Nephite**, on the line which they had **fortified** and stationed their armies to defend their north country.*

This verse clearly states that they fortified from the west sea to the east. This suggests that they constructed a fortification that was the length of "a day journey for a Nephite". This would be a massive structure that would likely be readily noticeable today. An ancient twelve-mile structure currently exists at the proposed location of the Pasion River Model's narrow neck of land. Therefore, could the distance of "a day journey for a Nephite" be similar to twelve miles?

6. The trek from Aquateca (Melek) to Itzimte (Ammonihah)

Alma 8:6 So that when he had finished his work at Melek he departed thence, and traveled **three days'** journey on the north of the **land of Melek**; and he came to a city which was called **Ammonihah**.

This three-day journey has a near perfect match by assuming that Alma has moderate traveling capabilities and that the travel conditions are moderate as well. It's likely that there were well established travel routes in the area in 82 BC.

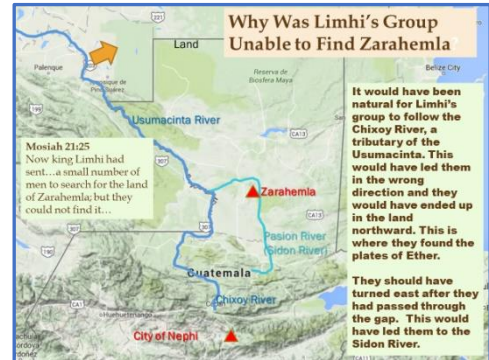
7. 5Limhi's departure from the city of Nephi

Mosiah 22

*11 And it came to pass that the people of king Limhi did depart by night into the wilderness with their flocks and their herds, and they went around about the **land of Shilom** in the wilderness, and bent their course towards the land of Zarahemla, being led by Ammon and his brethren.*

12 And they had taken all their gold, and silver, and their precious things, which they could carry, and also their provisions with them, into the wilderness; and they pursued their journey.

*13 And after being **many days** in the wilderness they arrived in the **land of Zarahemla**, and joined Mosiah's people, and became his subjects.*



There is not much that can be learned from these verses other than they packed a lot of things and took many days.

The biggest takeaway from these examples is that we simply don't have enough information to draw any definitive conclusions about distances in the Book of Mormon lands. This reality is demonstrated by comparing the travels of Alma and Ammon. Alma is classified as a slow traveler, he took 13 days to get to the land of Nephi where Ammon took forty days and is classified as a fast traveler. This realization should allow a certain amount of latitude to the triangulation process establishing Book of Mormon locations. In other words, it is more important to look at the elevations, directions, timing and the unique characteristics of the various locations. One of Sorenson's main contributions was his sense of distances in the Book of Mormon. It's interesting to note that about 95 percent of the Old Testament took place in an area only 150 miles long and less than 75 miles wide.

Notes:

The following notes depict various travel scenarios that are found in the Central America during ancient times:

1. One example of distance and travel time is given in the chronicles of Columbus' fourth voyage (2). During his stay on the coast of western Panama he contacted some of the local natives who told him that it was a nine-day journey from the Laguna de Chiriqui in present day Panama, where he was anchored, across the Cordillera to the Pacific--a distance of 65 miles. This would average **a little over 7 miles per day**. This is certainly comparable to the 20-day journey from Vulcan to San Jose which I have propose as the route from the land of Nephi to the land of Zarahemla.
2. An even better example is that of Balboa, who was the first European to cross the Isthmus of Panama to the Pacific Ocean. He set out from Antigua on the Caribbean Coast on Sept. 1, 1513 with 190 men and 1000 Indians. The Indians had told him it would take 6 days to cross to the south sea (this would have averaged 7.5 miles a day). They followed established Indian trails, but still encountered many difficulties. Finally, on Sept. 28 they reached the shores of the Pacific--a total of 27 days travel to cover a distance of 45 miles, **or less than 2 miles per day**. (Could this possibly be the "narrow neck" which can be crossed in 1 to 1 ½ (James Lee Warr)

3. In 1525, after the Spanish conquest of the Aztec Empire, Hernán Cortés led an expedition to Honduras over land, cutting across the Itza kingdom in what is now the northern Petén Department of Guatemala.[56] His aim was to subdue the rebellious Cristóbal de Olid, whom he had sent to conquer Honduras; Olid had set himself up independently on his arrival in that territory.[57] Cortés had 140 Spanish soldiers, 93 of them mounted, 3,000 Mexican warriors, 150 horses, a herd of pigs, artillery, munitions and other supplies. He also had with him 600 Chontal Maya carriers from Acalan. They arrived at the north shore of Lake Petén Itzá on 13 March 1525. [58]

From the lake (Lake Petén Itza), Cortés continued south along the western slopes of the Maya Mountains, a particularly arduous journey that took **12 days to cover 32 kilometers** (20 mi), during which he lost more than two-thirds of his horses. When he came to a river swollen with the constant torrential rains that had been falling during the expedition, Cortés turned upstream to the Gracias a Dios rapid, which took two days to cross and cost him more horses. [59]

On 15 April 1525 the expedition arrived at the Maya village of Tenciz. With local guides they headed into the hills north of Lake Izabal, where their guides abandoned them to their fate. The expedition became lost in the hills and came close to starvation before they captured a Maya boy who led them to safety. [59] Cortés found a village on the shore of Lake Izabal, perhaps Xocolo. He crossed the Dulce River to the settlement of Nito, somewhere on the Amatique Bay,[62] with about a dozen companions, and waited there for the rest of his army to regroup over the next week.[59] By this time the remnants of the expedition had been reduced to a few hundred; Cortés succeeded in contacting the Spaniards he was searching for, only to find that Cristóbal de Olid's own officers had already put down his rebellion. Cortés then returned to Mexico by sea.

4. 378 AD military expedition from El Peru to Tikal in 8 days along the San Pedro River in Guatemala's central Petén covered 78 air kilometers in 8 days for a mean travel speed of 9.75 straight-line kilometers per day. [Book of Mormon Resources 11-21-11)
5. Maya traders with multiple oarsmen per vessel made this 1,600-kilometer trip in about 40 days, for a mean travel speed of 40 kilometers per day.
6. In 1586, Friar Alonso Ponce took a 10-day trip from San Juan Tiltepec near present-day Tonalá, Chiapas, to Ayutla, Father Ponce stopped many times along the way and still managed to cover the 243 point-to-point kilometers in 10 days for a mean travel speed of 24.3 point-to-point kilometers per day. [Book of Mormon Resources 10-13-11)
7. Human porters carrying merchandise traveled between Rabinal and Cobán in the early 1900's in 3 days. Porters traveled 44 air kilometers in 3 days for a mean travel rate of 14.66 straight-line kilometers per day. [Book of Mormon Resources 10-13-11)
8. The Lacandons covered 141 air kilometers. If they made the trip in 8 days, their mean rate of travel was 17.6 straight-line kilometers per day. If they took the more conservative 10 days to make the trip, they traveled at the rate of 14.1 straight-line kilometers per day. [Book of Mormon Resources 10-13-11)