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Chapter 9

**PRELIMINARY EVIDENCE FOR THE EXISTENCE OF A
REGIONAL SACBE ACROSS THE NORTHERN MAYA
LOWLANDS**

Scott L. Fedick, Dawn M. Reid, and Jennifer P. Mathews

Ancient road systems have often been used by archaeologists to reconstruct interaction and political ties among prehistoric settlements. Roads built by the ancient Maya offer many insights into the political geography of the area, particularly in the northern lowlands where hieroglyphic texts are rare. This study examines ethnohistoric, historic, and archaeological data that suggest that a regional road, some 300 km in length, once spanned the northern lowlands from the modern location of Mérida to the east coast facing the island of Cozumel. The political implications of such a road, if it once existed, are discussed.

Various lines of evidence suggest that an ancient Maya *sacbe* (road) once linked a series of ancient cities between the modern Yucatán capital of Mérida and the east coast of the Yucatán peninsula, near the island of Cozumel (Figure 9.1). While the existence of this *sacbe* has been alluded to by early Spanish chroniclers and European travelers from the sixteenth through the nineteenth centuries, it has never been verified and documented by archaeologists. If verified, this regional *sacbe* would be the longest such feature in the Maya region, and would shed new light on our understanding of ancient Maya political structure in the northern lowlands.

Archaeologists use road systems to reconstruct political and economic systems through the application of geographic models and graph theory,

while the extent of a road system provides empirical information on the scale of formalized networks. Road systems may also incorporate, to varying degrees, symbolic representations of world view and cosmology such as world directions, and often serve as routs for processions and pilgrimages (for recent archaeological perspectives on road systems, see contributions in Trimbold 1991, especially Folan 1991 for the Maya).

Hieroglyphic inscriptions from the southern Maya Lowlands have been interpreted by some as evidence for large-scale political units, while others suggest that polities were smaller-scale constructs organized around autonomous centers with territories averaging about 2,000 km², and with stable alliances or conquests generally occurring within 25 km of a

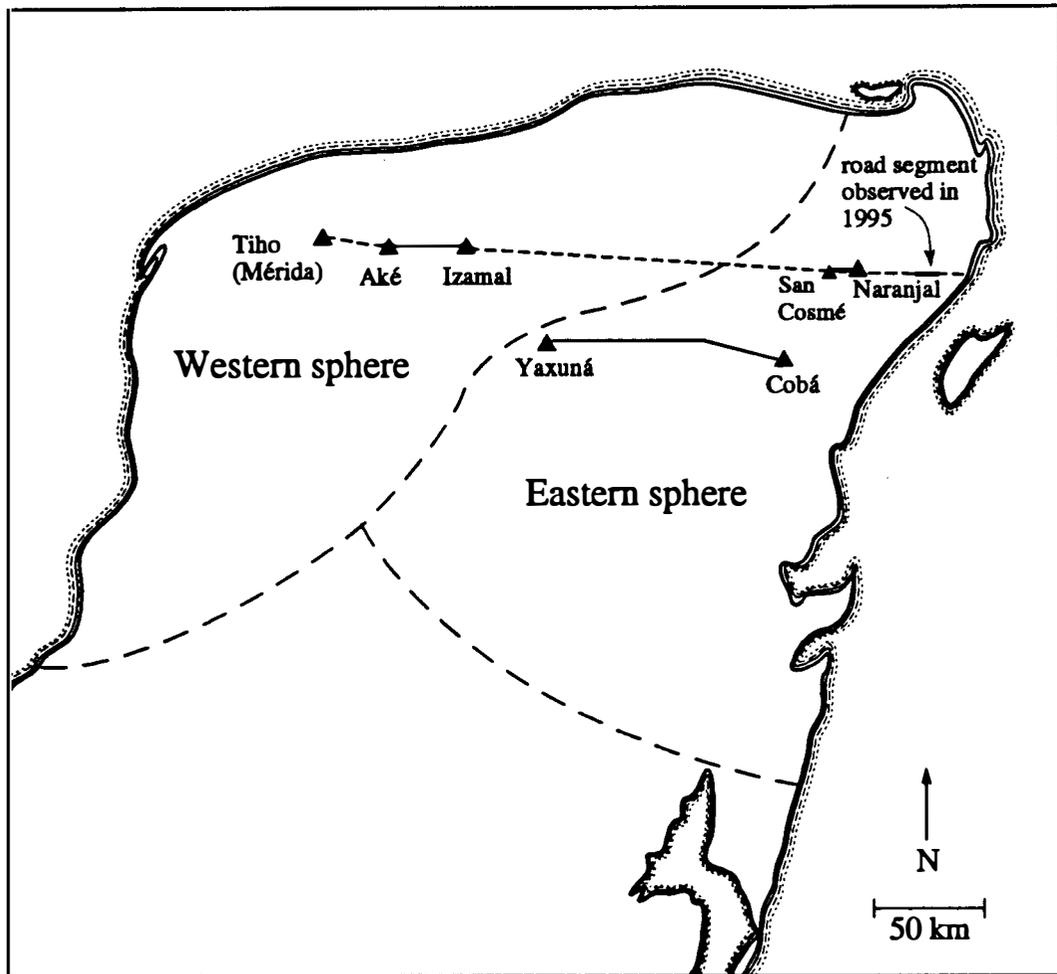


Figure 9.1. Proposed route of the regional *sacbe* (dashed line represents proposed route, solid line indicates known *sacbe* segments and the roadbed observed in 1995). Also indicated are the Western and Eastern spheres of the Late/Terminal Classic (after Robles C. and Andrews 1986:Figures 3.4 and 3.7).

territorial capital (see Hammond 1991; Houston 1993:136-148). The distance from an autonomous capital to the fringes of its territory is believed by many to be associated with the distance that a political emissary, or soldier, can travel by foot in one day: approximately 25-33 km (see Hammond 1991:277-278). In recognizing this general pattern, it is also apparent that some formalized associations in the southern Maya Lowlands spanned greater distances (see Culbert 1991). In general, ancient polities that form strong networks extending beyond 25-33 km from the capitol are integrated through linear transport/communication networks such as roads (e.g., Hyslop 1984). The ancient *sacbe* spanning 99 km between Cobá and Yaxuná is described by Linda

Schele and David Freidel as "the most ambitious political monument ever raised by the Maya" (1990:353). Did a regional *sacbe*, extending some 300 km from west to east, provide the backbone for a Classic-period polity in the northern lowlands? A linear polity of this scale would not be unreasonable to suppose, since a linear network affords much more efficient communication and transport than a radiating, or multidirectional, network. While a 300-km *sacbe* may seem truly monumental, it is still dwarfed by the road system associated with the Inka empire (Hyslop 1984).

Recent discussions of Classic Maya political organization propose either a "segmentary" or "galactic" state model, both of which emphasize le-

gitimization of political power through ritual (see Houston 1993:142-148). Since it is likely that the layout of Maya *sacbe* systems incorporated ritual as well as political-economic functions (Folan 1991; Folan et al. 1983:81-82), it is probably not coincidental that an elongated polity, such as the one suggested here, would find strong legitimization in an east-west *sacbe*, an alignment of paramount importance in Maya cosmology. The east coast of the Yucatán Peninsula has long been recognized as a destination of ancient pilgrimages (Miller 1982:95-98; Tozzer 1941:6, 108-109, 174), and a polity linked by such a pilgrimage route would embody strong ritual and symbolic legitimization (see also Freidel 1981). Investigators have long recognized the apparent linkage between actual ancient roads, and mythical accounts telling of roads suspended from the sky and connecting ancient cities (the myth was first recorded by Alfred Tozzer in 1907). This mythical pathway, called the "*kuxan sum*" or "*sakbe*" took the form of a living rope through which blood flowed, and was used to supply food to the rulers who once lived in the ancient cities (Dunning 1992:143-144; Miller 1982:92; Taube, personal communication 1995; Thompson 1970:341; Tozzer 1907:153-154). It may prove productive to pursue the *kuxan sum* myth in its various forms (see Freidel et al. 1993:105-106, 128, 425) as a metaphor for ancient road systems, circulating goods and communications among cities: connections which were constructed and destroyed as political fortunes shifted.

CURRENT MODELS OF EARLY POLITICAL ORGANIZATION IN THE NORTHERN LOWLANDS

The reconstruction of ancient political organization is a major concern in lowland Maya archaeology (e.g., Culbert 1991; Houston 1993), and the ancient *sacbe* systems of the northern lowlands offer an opportunity to investigate direct physical connections between sites (see Benavides 1976, 1981; Folan 1991; Kurjack 1994; Kurjack and Andrews 1976; Kurjack and Garza 1981; Maldonado 1979; Navarrete et al. 1979; Villa Rojas 1934). For the southern lowlands, the decipherment of glyphic inscriptions has provided many insights into the processes of state formation and changes in Classic-period political geography. Epigraphic research is severely limited in the northern lowlands due to the scarcity of inscribed monuments. As a result, the political geography of the northern lowlands is little known prior to the League of Mayapán (ca. A.D. 1250-1441) (Andrews 1984). Based on ceramic and architectural styles, it

has been suggested by Fernando Robles Castellanos and Anthony Andrews (1986) that two distinct cultural spheres may be defined in the northern Yucatán Peninsula for the Formative through Classic periods: a Western sphere including the Northern Plains and Puuc regions, and an Eastern sphere (including northern Quintana Roo) that appears to have been dominated by the Cobá polity during the Late and Terminal Classic periods (Figure 9.1. cf. Schele and Freidel 1990:351 concerning the timing of the east-west division). Robles Castellanos and Andrews (1986:70) also suggested that the known extent of ancient *sacbe* systems in the northern lowlands should "be viewed as skeletons of large political domains, and such is obviously the case at Cobá and Izamal." The longest regional *sacbe* systems currently known in the northern lowlands are associated with Cobá/Yaxuná in the east (99 km in length), and with Izamal/Aké in the west (32 km in length). Robles Castellanos and Andrews (1986:78) stressed that the (known) *sacbe* systems emphasize separation of the Eastern and Western spheres (Figure 9.1).

The research of the Yalahau Regional Human Ecology Project provides new insight into political organization of the northern lowlands (see chapters in this volume by Fedick and Taube, and by Taube). Archaeological survey and mapping in 1993 established the site of Naranjal to be a major center, most likely dating to the Protoclassic and early half of the Early Classic periods (ca. A.D. 100-450). The most striking trait of the public architecture at Naranjal is the use of well-dressed, massive stones in construction. The style of monumental architecture at Naranjal is strongly associated with the Early Classic period, and is often referred to as the megalithic style (e.g., Roys and Shook 1966:49). The megalithic style has generally been associated with sites of the Western sphere, particularly Izamal and Aké, sites linked by an ancient *sacbe* (Figure 9.1).

The megalithic style of architecture at Naranjal suggests that the political landscape of the northern lowlands may have been quite different from the model proposed by Robles Castellanos and Andrews (1986), at least for the Early Classic period. Rather than being part of a distinct Eastern sphere, the northeastern area of the Yucatán Peninsula may well have been closely linked to sites of the northwest, forming a broad interaction sphere across the entire northern end of the peninsula during the Early Classic period. An east/west political division may have subsequently developed with the consolidation of the Puuc cities in the west and the emergence of Cobá and its apparent political domination of the Eastern sphere during the Late and Terminal Classic

periods. The Cobá polity was, in turn, eclipsed by Chichén Itzá (Andrews and Robles Castellanos 1985; Schele and Freidel 1990:352-354).

Similarity of architectural style is highly suggestive of interaction among Early Classic centers spanning the eastern and western areas of the northern Yucatán Peninsula (see Taube, this volume). However, this form of evidence does not provide for explicit political linkages among centers, as do the *sacbe* systems interpreted by Robles Castellanos and Andrews (1986) as corroborating evidence for separate Eastern and Western spheres. The potential existence of an ancient *sacbe* linking many megalithic-style centers from the western Yucatán site of Tiho (Mérida) to the east coast would provide convincing evidence for a Northern sphere of interaction as well as for a previously unrecognized Early Classic polity in the northern Maya Lowlands.

EARLY ACCOUNTS OF A REGIONAL SACBE

During the sixteenth and seventeenth centuries, numerous Spanish chroniclers including Diego de Landa, Bernardo de Lizana, and Diego Lopez Cogolludo reported the existence of ancient roadways connecting the ruined Maya cities of the northern lowlands of the Yucatán Peninsula (see Tozzer 1941). Cogolludo, in 1688, reported that "there are remains of paved highways which traverse all this kingdom and they say they ended in the east on the seashore" (cited in Tozzer 1941:109), and that "to Polé, a town on the mainland opposite Cozumel, there was a road which was used by pilgrims going to the shrine on Cozumel" (cited in Tozzer 1941:6). The exact location of Polé is rather uncertain, being placed by various accounts and maps at a number of locations along the coast from Xcaret to a little north of Puerto Morelos (for various locations given for Polé, see Con and Jordán 1992; Maudslay 1889-1902:Plate 1). Diego de Landa described an ancient road connecting the ruins of Tiho (modern Mérida) with other ruins at Izamal, approximately 65 km to the east (Tozzer 1941:173-174). Archaeologists have documented a portion of this route between Izamal and Aké, a site situated approximately 30 km east of Mérida (Roys and Shook 1966).

Desire Charnay's early travel account of 1883 reported that "we also have found marks of a cemented road, from Izamal to the sea, facing the island of Cozumel" (Charnay 1883:308). In a review of ancient Maya land communication networks, Victor von Hagen (1960:179-190) argued for the existence of a Tiho-Polé *sacbe* and included it in his map of regional Maya *sacbe* systems. A map of the

Landforms of Mexico, prepared by Erwin Raisz in 1959, indicates a "Maya causeway" running from the east coast settlement of Puerto Morelos for about 48 km to the west (Figure 9.2).

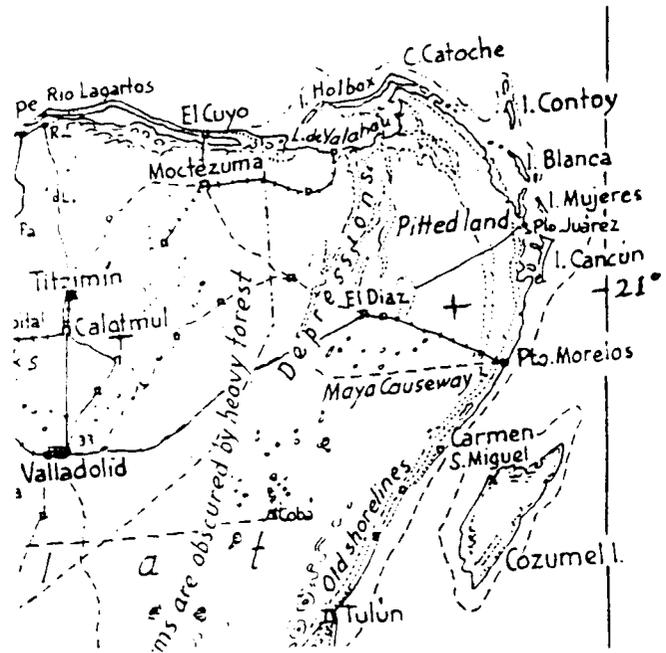


Figure 9.2. Location of a "Maya causeway," as indicated on a *Landforms of Mexico* map by Erwin Raisz (1959).

In a recent discussion with Scott Fedick, geologist A. E. Weidie reported (personal communication, March 1994) that during his fieldwork in Quintana Roo during the early 1960s, local Maya led him along an abandoned narrow-gauge *chiclé* railroad running from the coast near the modern town of Puerto Morelos, inland to the west for about 20 km. The Maya told him that the tracks had been laid upon the raised bed of an ancient roadway. This is apparently the same route indicated as a "Maya causeway" on Raisz's 1959 map (Figure 9.2). In summarizing the recent history of northern Quintana Roo, Anthony Andrews (1985) described the logging and *chiclé* industry that developed and declined in the region between the late nineteenth century and the early twentieth century. According to Andrews (1985:140-141) the major exploiter of forest products during this period was the *Compania Colonizadora de la Costa de Yucatán*, which operated from the north coast to Tulum. The company was formed in 1896 and was dissolved in 1936. Narrow-gauge Decauville rail tracks were laid by the company, including a line

RECENT OBSERVATIONS

from Puerto Morelos, northwest to Santa Maria (known today as Leona Vicario, according to Andrews [1985:140]). This rail is indicated on a 1943 map (Dirección de Geografía Meteorología e Hidrología 1943) as running in a nearly straight line between these two settlements while passing through a number of intervening villages. An earlier map of 1922 (Dirección de Estudios Geográficos y Climatológicos 1922) indicates only a *vereda* (path) along a similar, though slightly more sinuous, route. The Puerto Morelos-to-Santa Maria (Leona Vicario) rail line is indicated on Raisz's (1959) map, and is a separate feature from that described on that map as a "Maya causeway." Many more rail lines were constructed than are illustrated on historic maps. For example, Scott Fedick has observed a network of narrow-gauge rail-lines running roughly east-west within the borders of the El Edén Ecological Reserve, approximately 24 km directly north of Leona Vicario (Figure 9.3). These rail-lines are not indicated on any historic maps that have yet been consulted. It is therefore quite possible that a rail-line could exist along the route indicated as a "Maya causeway" on Raisz's (1959) map. It is also quite possible that a historic rail-line, not indicated on historic maps, was laid on top of an existing ancient *sacbe*. This would not be a unique case. Historian Robert Patch has described (personal communication 1995) a narrow-gauge rail-line running along the top of one of the ancient *sacbe*s at the site of Aké, the location of a historic henequen plantation.

In August of 1995, Scott Fedick and Jennifer Mathews drove along the unpaved road that runs roughly west from Puerto Morelos, looking for evidence of the historic railroad/ancient causeway described by Weidie and indicated on Raisz's (1959) map. The modern unpaved road appears on the latest 1:50,000 scale topographic maps (Instituto Nacional de Estadística Geografía e Informática 1987a, 1987b), and appears to roughly parallel the "Maya causeway" route of the Raisz map for approximately 18 km. (This modern road does not appear to follow the route of the rail-line indicated on the 1943 map discussed above.) At approximately 16 km from the intersection with the highway at Puerto Morelos, we noticed a raised stone embankment approximately 20 m north of the modern dirt road (Figure 9.4).

Upon inspection, we found the embankment to be the south side of a roadbed that had been built up to traverse a depression in the terrain. The road is constructed of roughly shaped limestone cobbles and boulders and is about 4 m wide. The south side of the road, where it passes through the depression, is built up approximately 1 m to form a level surface (Figure 9.4). Along the center of this 4-m-wide road is a series of roughly hewn wooden ties that are laid in a gravel bed (Figure 9.5). The ties are about 115 cm in length, and the gravel in which they are embedded extends only a few centimeters beyond the ends of the ties, and rises about 20 cm above the wider roadbed.



Figure 9.3. Decauville cart on a segment of rail-line at the El Edén Ecological Reserve.



Figure 9.4. Side view (facing north) of raised road-bed approximately 16 km west of Puerto Morelos.



Figure 9.5. Roughly hewn railroad ties laid in gravel on top of a wider (4 m) road bed.

A modern path runs along the old rail line, which we followed for a few hundred meters into the small settlement of Vallarta, which appears to have been built along both sides of the line. The route from the point where we first identified the rail line to the point where it enters Vallarta has an orientation of 94 degrees magnetic. The outline of the 4-m-wide road is visible along this entire route, although it is difficult to distinguish in the forest. The bed is raised only about 10 to 20 cm above the modern surface except in areas where it is built up to traverse shallow depressions in the terrain. The narrower gravel bed can be more easily followed, with wooden ties being occasionally visible. The rail line and the narrow gravel bed on which it lies seem clearly to have been laid atop an earlier, wider roadbed (Figure 9.6). It is important to note that the historic rail lines observed within the El Edén Ecological Reserve (discussed above) are laid on a bed of rock just wide enough to accommodate the width of the ties; approximately 1.5 m. It is quite possible that the wider roadbed observed near Vallarta is a segment of an ancient Maya *sacbe*.

CONCLUSIONS

A combination of historic accounts, maps, archaeological data, and recent field observations suggest the existence of an ancient regional *sacbe* running for approximately 300 km from the ancient city of Tiho (modern Mérida) to the east coast at or near Puerto Morelos. A 32-km segment of ancient *sacbe* along this route has previously been documented between Izamal and Aké (Roys and Shook 1966:43-45), and our recent field research has recorded a 3-km-long segment of ancient *sacbe* between the sites of Naranjal and San Cosmé, along the same east-west route (Reid, this volume). The possibility that a historic rail line was laid atop an ancient road, completing a major portion of the route to the coast, is intriguing and worthy of thorough field and documentary investigation. If confirmed, the east-west regional *sacbe* would shed new light on ancient political formation and interaction within the northern Maya Lowlands.

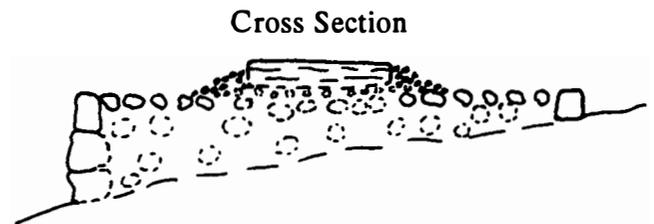
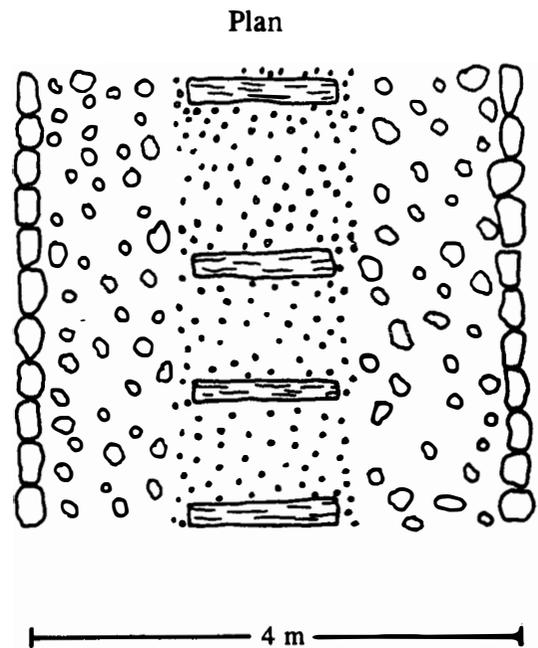


Figure 9.6. Plan and cross section of roadbed and narrower gravel bed with wooden ties (based on surface observations).

Acknowledgements. We express our gratitude to A. E. Weidie for sharing his knowledge of the historic rail-line and possible ancient causeway near Puerto Morelos. Thanks to Karl Taube for pointing out the *kuxan sum* (*kuxan su'um*) myth and its association with roads.

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