Planning for Intermodal Facilities and Infrastructure Changes to Enhance Traffic Flow in Southern Mississippi

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Abstract

There has been a sustained growth in population, business and tourism in Mississippi's three southern most counties (Hancock, Harrison, and Jackson). Each of these counties has an active and growing port facility. A major problem facing the ports is the intermodal movement of goods. The sustained growth that the area has seen has resulted in slower movement of traffic especially, in the Gulfport area. The long range potential for the ports is very positive, thus the problems of the movement of goods and people will probably increase in the future if the current infrastructure is not improved. Discussions with port personnel reveal that an intermodal facility would help to improve the movement of goods along the coast.

An objective of this project was to determine potential locations for intermodal facilities in the three Mississippi counties listed above. Consideration was given to the intermodal transfer of goods in all modes of traffic (air, sea, rail and truck). The location of potential facilities was accomplished using Arc GIS and satellite imagery from various sources of the three counties. Layers were developed using data available on urbanized areas, national forest, wildlife management areas and parks. These areas were excluded when considering locations. After visiting intermodal facilities and holding discussions with knowledgeable people, it was determined that the area had to have a minimumt

the railroad across the Mississippi Gulf Coast may be moved along this corridor. Some of the sites located are near current rail and highway sites. These sites would be helpful if the existing rail facilities were not moved.

4) The three images were then geo-rectified into a seamless image by using visible highway and road intersections.

5) Additional vector features were obtained from various sources and added to the GIS as layers:

   a) Environmentally sensitive areas

distances were only calculated for sites that seemed to have logical access to rail lines).

The GIS system used for this study was packaged in a free format and put on a CD for the distribution to and education of interested parties. The CD can be obtained by contacting David Parrish of the Mississippi State University Social Science Research Center at David.Parrish@SSRC.MsState.edu or by phone (662) 325-8116. The interactive CD allo

Table 1. Potential Intermodal Sites on the gulf Coast with Calculated Area Available, and Distances from Major Ports for Truck and Rail.

Potential Site Number	Area (Acres)	Distance From Port Of Bienville (miles)		Distance From Port of Gulfport (miles)		Distance From Port of Pascagoula (miles)	
		via Road Network	via Rail Network	via Road Network	via Rail Network	via Road Network	via Rail Network
1	18,943.51	20	n/a	33	n/a	70	n/a
2	388.95	24	n/a	20	n/a	57	n/a
3	920.61	27	n/a	20	n/a	57	n/a
4	1,914.90	34	n/a	10	n/a	47	n/a
5	339.44	37	35	6	5	43	39
6	4,040.34	34	34	7	4	46	38
7	536.94	46	n/a	14	n/a	34	n/a
8	6,836.12	57	n/a	25	n/a	23	n/a
9	1,836.98	59	n/a	26	n/a	22	n/a
10	2,894.68	64	n/a	31	n/a	17	n/a
11	2,588.54	64	n/a	32	n/a	17	n/a
12	3,546.60	70	n/a	37	n/a	11	n/a
13	1,448.97	70	n/a	37	n/a	11	n/a
14	2,444.55	75	71	43	40	12	8
15	4,541.11	82	73	49	43	12	11

Notes:

1. Distance calculations made by using the measure tool in ArcGIS 8.3, and all distances are rounded to the nearest mile.

2. The shortest path was taken between points; however use of Interstate 10 was utilized whenever logical. Access from I-10 directly to the respective site along the interstate was assumed in the calculations.

3. Port to potential sites via *road networks* were measured from the port to the centroid of the potential site polygon.

4. Port to potential sites via *rail networks* were measured from the port to a point on a rail network adjacent or within a mile of a potential site. Therefore, a majority of sites were not applicable because the site was not within a mile of an existing rail line.

SITE 1

Site one is the largest site with almo

Sites 8 through 11 are basically the same as site 7 except they are larger. They are closer to the Port of Pascagoula but closer to the same distances between the ports (Table 1).

Sites 12 & 13

Sites 12 & 13 are closer to the Port of Pascagoula but further from a current

Under the current situation, Port Bienville is the least crowded of the ports and may have space to grow within the current complex. This was not shown on the map; however, personal observation of the facilities of the complex lead to this statement.

The Port of Gulfport is the most crowded and currently needs greater accessibility to space. Additionally, the Port of Gulfport is also located in a highly congested traffic area. More space is currently being created at the Port, however.