



memo davis

to Caltrans
from MIG
re City of Colusa Market Complete Streets – Farm Equipment Meeting
date August 25, 2010

This memorandum summarizes the farm equipment data and information obtained during an August 25th site visit to Colusa Tractor. The meeting was attended by:

- Jose Leal, MIG
- Paul Sankey, Sankey Automobiles
- John Schwandt, Colusa Tractor Service Manager
- Asa Utterback, Ponticello Engineering; and
- Kathy Yerxa, Colusa resident.

Combines:

One of the largest farming machinery is the Combine. Combines have a width (outside to outside) range between 14'-9" to approximately 16' depending on the specific tire and set up. Road clearance (road to frame) of a Combine is about 18". The total height of a Combine is about 15'.

Headers, or removable equipment designed for particular crops and attached to the front end of a Combine, vary in width from about 15' to 40'. The majority of the headers, due to width, are detached from the Combine and loaded on header carriers for towing during transport.

Row-Crop Tractors:

The second type of tractor observed was the Row-Crop Tractor. Larger Row-Crop tractor widths (outside to outside) range from about 12' up to about 16' depending on the specific tire size, number of tires per axle and set up.

The total heights range from 12' to 14'. Road clearance (road to frame) ranges from 14" to 19", but as noted on the following page, the maximum road clearance will be dictated by the type of equipment attached or being towed by tractor.

Open Field Equipment:

The largest farming equipment needed to be accommodated on the road is not necessarily the tractor, but the various types of equipment mounted or pulled by the tractor. It is this equipment which appears to



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dictate the road clearances required. Open field equipment towed by either a tractor or a heavy duty truck includes plows, rippers, tillers, disks, seeding equipment, planters, scrapers, choppers, etc.

In some cases, the transportation position of the equipment is much less than its operational dimensions because of the ability to fold certain equipment vertically or stack it horizontally. Transport width of folding or stackable equipment will range from 8' up to 18' with a transport height of up to 18'.

In other cases the equipment does not have the ability to be narrowed for transporting. This type of equipment will vary in size from 10' up to 20'. But certain items like scrapers, discs, and choppers can be wider than 20', even though they may not be as common. Certain pieces of equipment, including clod crushers can get as wide as 24' but do not have a built system of wheels that allow them to be towed behind a tractor or truck unless loaded on a flat bed or other type of carrier. The transport widths of these pieces of equipment will be much less than their operation width.

Road clearance (road to equipment) will vary depending on how the equipment is mounted and whether it is being towed behind the tractor. Based on a few pieces of equipment observed (chopper and discs) the transport road clearance can be as little as 4 to 6 inches and for the sake of argument, zero clearance should be anticipated for these and other pieces of equipment.

Other items to consider are:

- Tractors, even though guided at times by GPS, do not handle like cars. Even the best tractor driver will struggle keeping one of these machines moving in a straight line at all times. One should consider a "buffer zone" around the tractors and equipment because of this.
- Equipment is not always straight at the end of the day. Axles may be bent, warped, etc which will cause the equipment to sway side to side. As noted above, one should consider a "buffer zone" to allow for these movements.
- As noted earlier, certain equipment is transported on carriers. A typical method of carrying equipment consists suspending a piece of equipment to a frame with chains. This method will cause the heavy piece of equipment to sway side to side. Again, as noted above, one should consider a "buffer zone" to allow for these movements.
- Tractors are only getting bigger. This is driven by the need for efficiency and the need to increase capacity (acres/hour).

In summary, the minimum transport dimensions which need to be considered are as follows:

- 15' high
- 20' wide (not including additional buffer zone)
- Zero road clearance.