

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE



For the Technical Direction of the LTPP Program



Program Area: IMS

Directive Number: I-53

Date: June 4, 1998

Supersedes: NA

Subject: *EXPERIMENT_SECTION* Definitions

This directive contains detailed definitions and examples of the application of these definitions for *EXPERIMENT_SECTION*. It is intended to be used as a reference tool when inputting or correcting records in *EXPERIMENT_SECTION*. In this document the entire schema is shown for completeness however definitions for common data elements found throughout the IMS are not given.

Questions regarding this directive should be submitted on IMS-SPR forms to FHWA Pavement Performance Division with a copy to the LTPP Technical Support Service Contractor.

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Table 1. *EXPERIMENT_SECTION* Definitions

COLUMN ENTRY	FORMAT	DEFINITIONS	REQ. FIELD?	VALID ENTRIES
SHRP_ID	VARCHAR2(4)		Yes	If GPS_SPS = G, then (0001 - 9999) If GPS_SPS = S, then first digit (0, A-Z) If GPS_SPS = S, then second digit (1-9) If GPS_SPS = S, then third and fourth digit (00-99)
STATE_CODE	NUMBER(2,0)		Yes	As found in STATE_PROVINCE Codes table.
CONSTRUCTION_NO	NUMBER(2,0)	Event number used to relate changes in pavement structure with other time dependent data elements. This field is set to 1 when a test section is initially accepted into LTPP and is incremented with each construction related change to the pavement layer structure.	Yes	\$ 1
CN_ASSIGN_DATE	DATE	The assignment date for the beginning of a construction event. It is equal to acceptance date when a test section is first included in LTPP, i.e. CONSTRUCTION_NO = 1. It corresponds to the construction activity start date when the pavement layer structure is modified by maintenance or rehabilitation.	Yes	\$ 01-JAN-87 # Current Date
GPS_SPS	VARCHAR2(1)	A code indicating if the section is a GPS (G) or SPS (S) section.	Yes	G, S
EXPERIMENT_NO	VARCHAR2(3)	Code indicating to which LTPP experiment the pavement section is assigned.	Yes	If GPS_SPS = G, then (1,2,3,4,5,6A,6B,6C,6D,6S,7A,7B,7C,7D,7S,9) If GPS_SPS = S, then in (1,2,3,4,5,6,7,8,9)
STATUS	VARCHAR2(1)	A code indicating the status (null is approved, O is out of study, and R is rejected) of a section for a given construction event.	No	NULL, O, R
ASSIGN_DATE	DATE	Date when a test section was assigned to the LTPP experiment. The experiment designation for a test section is the combination of EXPERIMENT_NO and GPS_SPS fields in the record. When a section is first accepted into LTPP, ASSIGN_DATE is the acceptance date. When a test section changes experiment due to rehabilitation, ASSIGN_DATE is the construction start date.	Yes	\$ 01-JAN-87

COLUMN ENTRY	FORMAT	DEFINITIONS	REQ. FIELD?	VALID ENTRIES
DEASSIGN_DATE	DATE	Date when a test section changed to another experiment or was placed in out of study status in the LTPP program (STATUS=O).	No	NULL, > CN_ASSIGN_DATE # Current Date
SEAS_ID	VARCHAR2(1)	State specific seasonal identification code.	No	NULL, A - H
SUPPLEMENTAL	VARCHAR2(1)	A marker to identify state supplemental sections.	No	NULL, S
EXP_SECT_RS	VARCHAR2(1)	RECORD_STATUS for EXPERIMENT_SECTION Table.	Yes	A - E
BASIC_INFO_RS	VARCHAR2(1)	RECORD_STATUS from minimum RECORD_STATUS for selected BASIC_INFO tables.	No	NULL, A - E
PAV_STRUCT_RS	VARCHAR2(1)	RECORD_STATUS from minimum RECORD_STATUS of all layers for TST_L05B for this SHRP_ID, STATE_CODE and CONSTRUCTION_NO	No	NULL, A - E
TRAFFIC_RS	VARCHAR2(1)	RECORD_STATUS from maximum RECORD_STATUS for selected monitoring Traffic tables.	No	NULL, A - E
CLIMATIC_RS	VARCHAR2(1)	RECORD_STATUS from maximum RECORD_STATUS for selected Climatic tables.	No	NULL, A - E
RECORD_STATUS	VARCHAR2(1)	Set as the minimum (not including null) of all matching records for EXP_SECT_RS and BASIC_INFO_RS for each CONSTRUCTION_NO in this table. This will control the Data Extraction Process on the section and construction event level.	Yes	A - E, *, !

The definitions given in Table 1 should be self-explanatory. The following are guidelines for entering and checking the data in **EXPERIMENT_SECTION** along with examples of each specification¹. These are similar to the checks present in the Level "E" QC checks for **EXPERIMENT_SECTION**.

Example 1. For a matching STATE_CODE and SHRP_ID, if CONSTRUCTION_NO > 1, then a CONSTRUCTION_NO - 1 must exist.

Correct Records

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B	17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C	2-Feb-92	

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	30-Jun-87	17-Oct-90
1116	48	3	17-Oct-90	G	6B	17-Oct-90	2-Feb-92
1116	48	5	2-Feb-92	G	6C	2-Feb-92	

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	30-Jun-87	

Incorrect Records

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	21-Apr-88	

Example 2. If CONSTRUCTION_NO = 1 then CN_ASSIGN_DATE = ASSIGN_DATE.

Correct Record

Incorrect Record

¹ Note that in some of the examples the entire record is not shown. These examples are for illustrative purposes only.

Example 3. If STATUS = nonnull, then DEASSIGN_DATE must be nonnull.

Correct Record

Incorrect Record

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
6053	4	1	1-Jul-88	G	6A	O	1-Jul-88	1-Oct-97

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
6053	4	1	1-Jul-88	G	6A	O	1-Jul-88	

Example 4. If DEASSIGN_DATE null, then STATUS must be null.

Correct Record

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
6053	4	1	1-Jul-88	G	6A		1-Jul-88	

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
6053	4	1	1-Jul-88	G	6A	O	1-Jul-88	

Incorrect Record

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	O	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B	O	17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C	O	2-Feb-92	1-Jan-97

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1	O	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B		17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C		2-Feb-92	1-Jan-97

The next five examples relate to multiple CONSTRUCTION_NOs for a matching STATE_CODE and SHRP_ID:

Example 5. If STATUS(CN) = nonnull, then STATUS(CN+1) = nonnull.

Correct Record

Incorrect Record

Example 6. If STATUS(CN+1) = null, then STATUS(CN) = null

Correct Record

Incorrect Record

SHRP ID	STATE CODE	CONSTRUCTION NO	CN ASSIGN DATE	GPS SPS	EXPERIMENT NO	STATUS	ASSIGN DATE	DEASSIGN DATE
1116	48	1	30-Jun-87	G	1		30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B		17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C		2-Feb-92	

SHRP ID	STATE CODE	CONSTRUCTION NO	CN ASSIGN DATE	GPS SPS	EXPERIMENT NO	STATUS	ASSIGN DATE	DEASSIGN DATE
1116	48	1	30-Jun-87	G	1	O	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B		17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C		2-Feb-92	

Example 7. $CN_ASSIGN_DATE(CN) < CN_ASSIGN_DATE(CN+1)$

Correct Record

SHRP ID	STATE CODE	CONSTRUCTION NO	CN ASSIGN DATE	GPS SPS	EXPERIMENT NO	ASSIGN DATE	DEASSIGN DATE
1116	48	1	30-Jun-87	G	1	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B	17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C	2-Feb-92	

SHRP ID	STATE CODE	CONSTRUCTION NO	CN ASSIGN DATE	GPS SPS	EXPERIMENT NO	ASSIGN DATE	DEASSIGN DATE
1116	48	1	17-Oct-90	G	1	30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B	17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C	2-Feb-92	

Incorrect Record

SHRP ID	STATE CODE	CONSTRUCTION NO	CN ASSIGN DATE	GPS SPS	EXPERIMENT NO	STATUS	ASSIGN DATE	DEASSIGN DATE
502	4	1	1-Jan-87	S	5		1-Jan-87	
502	4	2	8-May-90	S	5		1-Jan-87	
503	4	1	1-Jan-87	S	5	O	1-Jan-87	1-Jan-92
503	4	2	3-May-90	S	5	O	1-Jan-87	1-Jan-92
504	4	1	1-Jan-87	S	5		1-Jan-87	
504	4	2	3-May-90	S	5		1-Jan-87	

Example 8. If $EXPERIMENT_NO(CN) = EXPERIMENT_NO(CN+1)$
 then $ASSIGN_DATE(CN) = ASSIGN_DATE(CN+1)$
 $DEASSIGN_DATE(CN) = DEASSIGN_DATE(CN+1)$ (even if NULL)
 $CN_ASSIGN_DATE(CN+1) > ASSIGN_DATE(CN+1)$

Correct Records

Incorrect Records

Example 9. If EXPERIMENT_NO(CN) ... EXPERIMENT_NO(CN+1)
 DEASSIGN_DATE(CN) = nonnull
 ASSIGN_DATE(CN) < ASSIGN_DATE(CN+1)
 DEASSIGN_DATE(CN)=CN_ASSIGN_DATE(CN+1)=ASSIGN_DATE(CN+1)

Correct Records

Incorrect Records

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
502	4	1	1-Jan-87	S	5		1-Jan-87	
502	4	2	8-May-90	S	5		8-May-90	
503	4	1	1-Jan-87	S	5	O	1-Jan-87	1-Jan-92
503	4	2	3-May-90	S	5	O	1-Jan-87	1-Jan-94
504	4	1	1-Jan-87	S	5		1-Jan-87	
504	4	2	1-Jan-87	S	5		1-Jan-87	

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1		30-Jun-87	17-Oct-90
1116	48	2	17-Oct-90	G	6B		17-Oct-90	2-Feb-92
1116	48	3	2-Feb-92	G	6C		2-Feb-92	

SHRP_ID	STATE_CODE	CONSTRUCTION_NO	CN_ASSIGN_DATE	GPS_SPS	EXPERIMENT_NO	STATUS	ASSIGN_DATE	DEASSIGN_DATE
1116	48	1	30-Jun-87	G	1		17-Oct-90	1-Jan-87
1116	48	2	17-Oct-90	G	6B		17-Oct-90	
1116	48	3	2-Feb-92	G	6C		2-Feb-92	