

→ RP3 → CHANGING OBJECTIVE FUNCTION

Need  $\|p_F - p_T\|_1$

→ MANHATTAN NORM OF VECTOR FROM  
FINAL STATE TO TARGET STATE.

$(p_F - p_T) = \begin{bmatrix} \quad \end{bmatrix}$  2-ELEMENT VECTOR

DEFINE  $\underline{s}, \underline{r}$ , 2-ELEMENT VECTORS

$\underline{s} \geq 0, \underline{r} \leq 0, \underline{x} = \underline{s} + \underline{r}$

$(p_F - p_T) = \underline{s} + \underline{r}$

MINIMISE  $(\underline{s} - \underline{r})$

MDP  $\xrightarrow{\text{SOLVE}}$  PLANNED HISTORY  $\xrightarrow{\text{SIMULATES}}$  IF DIFFERENCE, SOLVE AGAIN

INITIAL STATE

IN MDP FORMULATION, 1<sup>ST</sup> ACTION  
CAN "OVERRIDE" INITIAL VELOCITY

E.G., IF INITIAL HEADING = 2  
AND 1<sup>ST</sup> ACTION = 2, WILL HAVE,  
IN THE 1<sup>ST</sup> TIME STEP:

