## Example of Space-Time Graph: Train A

Ideal Profits an	nd Shift/St	retch Pena	alties	_		deal T	imeta	bles			
	Train A	Train B	Train C	;	Train A		Train B		Train C		
Ideal profit prj	4	5	3	Station	Arr	Dep	Arr	Dep	Arr	Dep	
Shift penalty $\pi_j^{sh}$ Stretch penalty $\pi_j^{st}$	- -	1	-	1 2 3	9:15	9:10	9:09 9:15	9:05 9:11	9:13	9:08	
Ø.,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	//////////////////////////////////////	Time.	ting Arc		<i>p</i> <sub>σ7</sub> =		<i>p</i> <sub>σ10</sub>	= 4	<i>p</i> <sub>σ12</sub>	=
Dep.1			ÓÖ	$\overset{0}{\circ}\overset{10}{\circ}$	00	2 13 2 Q					
Segr	ment Arcs			<del>}</del>		2 13 5 O	T <sub>4</sub>	O C	50	18	
Dep.2											
Arr.3								····	<b>→</b>		
				Endi	ng Ar	cs –				$\tau$	)

## Example of Space-Time Graph: Train B

Ideal Profits and Shift/Stretch Penalties

	Train A	Train B	Train C		Train A		Train B		Train C		
ldeal profit <i>pr</i> <sub>j</sub>	4	5	3	Station	Arr	Dep	Arr	Dep	Arr	Dep	
Shift penalty $\pi_i^{sh}$	1	1	1			9:10		9:05			
Stretch penalty $\pi_j^{st}$	-	1	-	. 1	9:15	9.10	9:09			9:08	
				3	00		9:15	•	9:13		
<b>9</b> ,,,	9900		Star	rting Arc	s	$p_{\sigma 1} =$	= 1	$p_{\sigma 5}$	= 5	$p_{\sigma 7}$	= 3
Dep.1	\ \dd{0}\d{0}	500	<sup>7</sup> %	on the second							<i>D</i> <sub>1</sub>
Arr.2	$\uparrow$	ÓÓ	ŽÔ.	00	Ö.	2 13 ) O					$R_2$
		/,					$\rightarrow$ // $\epsilon$				- Statio
Dep.2	.		ÇÇ			2 13	14 14	) 15			$D_2$
Segr	nent Arcs	· —	$\longrightarrow$								
Arr.3					O (	) () 2 13	14	O C 15: 11	) () 5 17	O (	
				Endi	ng Ar	cs –		$\rightarrow$		7	

**Ideal Timetables**