

## Railroad Mountain Passes and Grades by Railroad

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Mountain Passes are the arteries of commerce: without them, the economic growth of the surrounding area, and of the railroad itself would slow or become stagnant...in some cases the very economic lifeblood of the surrounding area or railroad depended on the completion of these engineering and construction achievements. **See end of list for other countries**

RR	Location	Name	Elev (ft)	Grade	Comments		
AC&W	NC	Aberdeen	<b>Sandhill Grade</b>		2.8%		
ALGP	PA	Hollidaysburg	<b>Allegheny Portage</b>	2,526	Hollidaysburg vertical ascent=1,399 ft. + 1127 ft		
ARGC	CO	Silver Plume	<b>Mt. McClellan</b>	13,117	6.0%	The Argentine Central was built to service the Argentine	
ARR	AK	Denali Park	Broad Pass MP 304	2,363			
ARR	AK	Riverhead	Broad Pass MP 304	2,363			
ARR	AK	Seward	<b>Bartlett Glacier MP 48.2</b>		3.0%	Named in 1907 for Frank Bartlett, Alaska Central	
AT&SF	CA	Cajon	<b>Cajon Pass and</b>	3,820	3.0%	Cajon Pass is one of the most strategically important	
AT&SF	CA	San Diego	Miramar Hill		2.3%	Miramar Hill was the steepest compensated grade on	
AT&SF	IL	Chillicothe	Edelstein Hill			Almost 4 miles outside of town the AT&SF (now BNSF)	
AT&SF	KS	Moline	Flint Hills Grade			Moline Kansas at the south end of the Howard Branch	
AT&SF	KS	Reading	Wakarusa Hill		1.0%		
AT&SF	NM	Glorieta	<b>Glorieta Pass</b>	7,453	3.2%	Construction on the Santa Fe Railroad reached Las	
AT&SF	NM	Mountainair	<b>Abo Pass</b>	6,508	1.2%	Around the turn of the 20th century, the Atcheson,	
AT&SF	NM	Raton	<b>Raton Pass</b>	7,622	6.0%	As originally constructed, Raton Pass was a	
AT&SF	NM	Socorro County	<b>Abo Canyon/Abo Pass</b>	5,771			
AT&SF	NM	Thoreau	<b>Campbell Pass</b>	7,244		Amtrak's Southwest Chief crosses this pass.	
AT&SF	TX	Richland Hills	<b>Tehachacomanche Loop</b>		4.0%		
B&A	NY	Hinsdale	Washington Hill grade				
B&O	MD	Altamont	<b>Seventeen Mile Grade</b>	2,628	2.7%	A community in Mineral County, Piedmont, WV was	
B&O	PA	Hyndman	<b>Sand Patch Grade</b>	2,630	2.3%	The 17 mile Sand Patch grade is located on the	
B&O	Wv	Austen	Newburg Grade		2.2%		
B&O	WV	Rowlesburg	<b>Cheat River Grade</b>		2.5%		
BCOLR	Canada	BC	Squamish	Cheakamus Canyon		2.2%	
BERN	Switzerland		Poschiavo	<b>Bernina Pass</b>	7,392		The Bernina Pass (el. 2328 m.) (Italian: Passo del
BHSR	MT	Toluca	Pryor Gap	4,300		In 1899, the Big Horn Southern built another line,	
BNSF	CA	Hercules	Franklin Canyon				
BNSF	MO	Thayer	Thayer North Subdivision		1.5%	The Thayer North Subdivision extends from Thayer to	
BNSF	WA	Everett	<b>Boeing aircraft plant lead</b>		5.6%		
C&IM	IL	Oakford	Hilltop Helper District			Hilltop was once a helper district for the Chicago &	
C&NW	IL	Peoria	Radnor Hill				
C&NW	MN	Lewiston	Lewiston Hill		1.7%	Lewiston is 15 miles west of Winona.	
C&O	KY	Olive Hill	<b>Corey Hill Grade</b>		2.7%	Corey Hill is just east of Olive Hill, KY.	
C&TS	CO	Cumbres	<b>Cumbres Pass</b>	10,015	5.8%	The Denver & Rio Grande Railroad built its narrow	
CA&CO	CA	Bodie	<b>Mt. Montgomery Pass</b>	7,138	2.3%	The Carson & Colorado line used the 7,138 foot high	
CA&CO	CA	Keeler	<b>Montgomery Pass</b>	7,100	2.8%		
CA&CO	NV	Mt.	<b>Mt. Montgomery Pass</b>	7,138	3.0%	Mt. Montgomery is 59 miles south of Beatty, NV.	
CB&Q	IA	Burlington	West Burlington Hill				
CB&Q	IA	Chariton	Chariton Hill			Chariton is about 50 miles west of Ottumwa, IA.	
CB&Q	IA	Ottumwa	Ottumwa - Creston Grade				
CB&Q	IA	Ottumwa	Ottumwa Hill				
CB&Q	IA	Red Oak	Red Oak Hill			Red Oak is about half way between Pacific Junction, IA	
CB&Q	IL	Browning	Browning Hill				
CB&Q	IL	Buda	Buda Hill				
CB&Q	IL	Quincy	Quincy Hill				
CB&Q	NE	Angora	Angora Hill			Helpers were required on northbound trains ascending	
CB&Q	NE	Crawford	<b>Crawford Hill</b>		2.2%		
CB&Q	SD	Deadwood	<b>High Line</b>		3.0%	Dumont is about 12 miles south of Deadwood. Dumont	
CB&Q	SD	Dumont	<b>High Line</b>	6,155		Dumont is about 12 miles south of Deadwood. Dumont	
CB&Q	WY	Parkman	Parkman Hill		1.2%		
CC&L	OH	Cincinnati	Cheviot Hill		1.9%	"Spectacular railroad engineering is always expensive,	
CC&O	NC	Altapass	Altapass Loops and Tunnel	2,628	1.5%	The Clinchfield Railroad route from Sevier (north of	
CC&O	NC	Altapass	<b>Clinchfield Route</b>		1.5%	The Carolina, Clinchfield & Ohio Railroad was	
CENTOV	Italy		Masera	<b>Domodossola-Locarno</b>		6.0%	
CHP	Mexico		Creel	<b>Copper Canyon</b>	8,000	2.5%	
CM	CO	Divide	<b>Ute Pass</b>	9,165	4.0%	Ute Pass is located in central Colorado along US	
CM	CO	Leadville	<b>Hagerman Pass (High</b>	11,530	4.0%	Hagerman Pass (also called the High Line) was a key	

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RR	Location	Name	Elev (ft)	Grade	Comments		
CMStP&P	ID	Avery	St. Joe River Canyon				
CMStP&P	ID	Avery	<b>St. Paul Pass</b>	4,170	1.7%	St. Paul Pass crosses the Bitterroot Mountains and is	
CMStP&P	MI	Hancock	<b>Quincy Hill</b>		3.0%		
CMStP&P	MT	Penfield	<b>Pipestone Pass</b>	6,347	2.0%	The Pipestone Pass line reached its maximum elevation	
CMStP&P	MT	Three Forks	<b>Sixteen Mile Canyon</b>			Sixteen Mile Creek, a tributary of the Missouri River, is	
CMStP&P	WA	Bolyston	Saddle Mountain Pass	2,460	2.2%	Saddle Mountain Pass is located 10 miles east of	
CMStP&P	WA	Cedar Falls	Cascade Line		1.7%		
CMStP&P	WA	Hyak	<b>Snoqualmie Pass &amp;</b>	2,564	1.7%	The Milwaukee Road used a surface line through	
CMStP&P	WA	Tacoma	<b>Tacoma Hill</b>		3.3%		
COAL&I	WV	Huttonsville	Cheat Mountain Grade		2.4%	Huttonsville is about 10 miles north of Cheat Mountain.	
CP	Canada	AB	Frank	Crowsnest Pass	4,455	The 4,455 ft high Crowsnest Pass was built to complete	
CP	Canada	AB	Jasper	<b>Kicking Horse Pass</b>	5,340	2.2%	The 5,340 ft high Kicking Horse Pass was built in 1884
CP	Canada	AB	Jasper	<b>Kicking Horse Pass Big</b>	5,340	4.5%	The 5,340 ft high Kicking Horse Pass was built in 1884
CP	Canada	BC	Fraine	Connaught Pass			
CP	Canada	BC	Golden	<b>Rogers Pass</b>	4,364	2.2%	Rogers Pass, located between Golden and Revelstoke,
CP	Canada	BC	Hope	Coquihalla Pass		The 4,081 ft high Coquihalla Pass was previously used	
CPRR	ID	Culdesac	<b>Lapwai Canyon</b>			The Camas Prairie grew out of the desire by the	
CPRy	CA	Colfax (Cape)	Cape Horn		2.4%	Cape Horn is 3 miles east of Colfax; Dutch Flat was 13	
CPRy	CA	Emigrant Gap	<b>Emigrant Gap</b>	5,187	2.4%	The ruling grade on the original Central Pacific line	
CPRy	CA	Norden	<b>Norden</b>	6,891	1.9%	"Donner Summit gets 35-40 feet of snow a year and	
CPRy	CA	Soda Springs	<b>Yuba Gap (Yuba Pass</b>				
CPRy	UT	Promotory	<b>Promontory Grade</b>		2.2%		
CV	CT	Norfolk	State Line Hill				
D&H	NY	Richmondville	Richmondville Hill		1.7%	The grade is located on a shelf cut in the hills	
D&H	PA	Union Dale	Ararat Summit		1.4%		
D&RG	CO	Crested Butte	<b>Kebler Pass Floresta</b>	10,007		Kebler Pass (el. 10,007 ft.) is a high mountain pass in	
D&RG	CO	Cumbres	<b>Cumbres Pass</b>	10,015	5.8%		
D&RG	CO	Cumbres	<b>Cumbres Pass</b>	10,015			
D&RG	CO	Gunnison	<b>Curecanti Needle (Cerro</b>		4.0%	Cerro Pass was located on the original narrow gauge	
D&RG	CO	Gunnison	<b>Gunnison Line (Black</b>			The original narrow gauge main line of the Rio Grande	
D&RG	CO	La Veta	<b>La Veta Pass (Muleshore</b>	9,242	4.0%	The construction of a railroad line over La Veta Pass	
D&RG	CO	Marshall Pass/	<b>Marshall Pass</b>	10,856	4.0%	The Marshall Pass line was a 425 mile line was	
D&RG	CO	Minturn	<b>Tennessee Pass</b>	10,223	3.0%	The Denver & Rio Grande Railroad, and its successor,	
D&RG	CO	Poncha	<b>Monarch Pass (Poncha</b>	9,000	4.8%	The Monarch Pass line was built as a narrow gauge	
D&RG	CO	Poncha	<b>Poncha Pass</b>	9,000		At 9,000 feet elevation, Ponchas Pass is one of the	
D&RG	CO	Salida	<b>Tennessee Pass</b>	10,500	3.5%	The Tennessee Pass line provided a more direct, lower	
D&RG	CO	Walsenburg	<b>La Veta Pass</b>	9,393	4.0%	La Veta Pass was located on the Walsenburg to	
D&RG	NM	Azotea	<b>Azotea Pass</b>	7,773		Azotea Pass appears to be 4 miles north of the midpoint	
D&RGW	CO	Leadville	Eagle River Canyon			Eagle River Canyon is located between Tennessee	
D&RGW	NM	Embudo	<b>Chili Line (Santa Fe</b>		4.0%	From Embudo, the Chili Line began its most steep (4%)	
D&RGW	UT	Helper	<b>Soldier Summit</b>	7,440	2.4%		
DFB	Switzerland	Gletsch	<b>Muttbach and the Furka</b>		11.0%	The Dampfbahn Furka Bergstrecke railway leaves	
DL&W	NJ	Greystone	<b>Greystone Hill</b>		5.0%	The Greystone Branch came off a line that connected	
DM&IR	MN	Proctor	Proctor Hill		2.2%	This short 7 mile piece of track required enormous	
DNW&P	CO	Kremmling	Gore Canyon				
DNW&P	CO	Rollinsville	<b>Rollins Pass (Corona</b>	11,700	4.0%	The 11,700 ft high Rollins Pass (also known as Corona	
DSP&P	CO	Climax	<b>Fremont Pass</b>	11,300			
DSP&P	CO	Como	<b>Boreas Pass</b>	11,482	4.0%	The DSP&P main line ran from Denver through the	
DSP&P	CO	Gunnison	Ohio Pass				
DSP&P	CO	Hartsel	<b>Trout Creek Pass</b>	9,346	5.0%	Trout Creek Pass is located on US24/285, 15 miles east	
DSP&P	CO	Littleton	<b>Platte Canyon</b>	9,130		"W.H. Jackson & Co. Views of Colorado. Platte Canyon,	
DSP&P	CO	St. Elmo	<b>Alpine Pass</b>			The Alpine Pass and Tunnel provided a key route	
DSP&P	CO	Waterton	<b>Platte Canyon Pass</b>	10,000	7.0%	The DSP&P main line ran from Denver through the	
DSP&P	CO	Webster	<b>Kenosha Pass</b>	9,990	7.0%	The DSP&P main line ran from Denver through the	
DSS&A	MI	Hancock	Hancock Hill				
DSS&A	MI	Hancock	<b>Hancock Hill</b>		4.0%		

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DT&I		OH Bainbridge	Summit Hill			
EJ	Japan	Karuizawa	<b>Usui Pass</b>		6.7%	
EP&SW		NM Rodeo	Antelope Pass			Peloncillo Mountains
FUROB	Switzerland	Graubünden/	<b>Oberalp Pass</b>	6,706		Oberalp Pass (Romansh: Alpsu or Cuolm d'Ursera,
G&Q	Ecuador	Guayaquil,	<b>Devil's Nose</b>	11,841	5.5%	This rail line was built to connect the capital city of Quito
GIL&P		MT Dillon	<b>Bannock Pass &amp; Tunnel</b>	7,575		Bannock Pass is located on the Montana-Idaho state
GN		MT Butte	<b>Elk Park Pass</b>	6,365		
GN		MT Essex	<b>Marias Pass</b>	5,213	1.8%	Marias Pass is located midway between Essex and East
GN		WA Wellington	<b>Stevens Pass Tunnel</b>	2,880	2.2%	Stevens Pass (elevation 4,056 ft (1,236 m)) is the
GN		WA Wellington	<b>Stevens Pass Tunnel</b>	2,100	1.6%	
GN		WA Wellington	<b>Stevens Pass Tunnel#1</b>	3,350	1.7%	Stevens Pass was the first mountain crossing used by
GTP	Canada	AB Jasper	<b>Yellowhead Pass</b>	3,718		Kicking Horse Pass was built in two phases: the first
HH		CA Hetch Hetchy	<b>Poopenaut Pass</b>	5,064	4.5%	The Hetch Hetchy Railroad was a 68-mile constructed
IT		IL Peoria	<b>Caldwell Hill</b>		2.6%	
KCP&G		AR Mena	Rich Mountain		1.5%	The 13 mile Rich Mountain grade is considered to be
KU		KY Jackson	Elkatawa Hill		1.0%	The Elkatawa Hill grade and Chenowee Tunnel was
L&N		AL Wilhites	Sand Mountain		1.2%	
L&N		KY Baileys	Emanuel Hill		0.7%	
L&N		KY Corbin	Chaska Hill Grade		1.0%	
L&N		KY Corbin	Crooked Hill Grade		1.4%	
L&N		KY Corbin	Emanuel or Bailey's to		0.7%	
L&N		KY Corbin	Kentucky Division		1.4%	
L&N		KY Decoursey	Independence Hill			
L&N		KY Ford	Ford to Patio Grade		1.0%	
L&N		KY Gentry	Elkatawa Hill Eastern		1.2%	
L&N		KY Lebanon	Muldraugh's Hill			Muldraugh Hill is 2.4 miles long. It is part of a limestone
L&N		KY Louisville	South Louisville to Latonia		1.1%	
L&N		KY Mary Helen	<b>Mary Helen Hill</b>	1,358	3.0%	Mary Helen is located in Harlan County, KY, near the
L&N		KY Radnor	Radnor to Portland		1.5%	
L&N		KY Ravenna	Ravenna to Patio Grade		0.4%	
L&N		KY Sinks	Lebanon branch Parksville		1.4%	
L&N		KY Turners Station	Campbellsburg Hill		1.8%	
L&N		KY Winchester	Winchester Hill			
L&N		TN Chaska	<b>Chaska grade Duff</b>			The Chaska Hill grade was a helper district even during
L&N		TN Erin	Tennessee Ridge		2.0%	
L&N		TN Knoxville	Knoxville Division		1.1%	
L&S		PA Ashley	<b>Ashley Planes #1 &amp; 2</b>		14.6%	The Ashely Planes were a series of grades that lifted the
LA&SL		CA Cima	<b>Cima Grade</b>	4,164	2.2%	Cima is the summit of a 2.2% eastbound grade. The
LA&SL		CA Kelso	Cima Grade		2.2%	Kelso is a ghost town and has an abandoned railroad
LMS	England	Tebay	Shap Incline			
LNA&StL		IN Georgetown	<b>Duncan Hill (Edwardsville</b>		2.5%	Completion of the Edwardsville (Duncan) Tunnel was
M&INIP		IN Madison	<b>Madison Hill</b>		5.9%	Indiana's first railroad was the Madison & Indianapolis
MAHANP		PA Mahanoy	<b>Mahanoy Plane</b>		28.0%	The Mahanoy Plane was a railroad Incline plane located
MONTR		MT Ringling	<b>Belt Mountains line</b>	5,793	1.0%	This line was constructed between 1897 and 1900 by
MtWCR		NH Mt. Washington	<b>Mt. Washington &amp; Cog</b>	6,288	37.0%	
MV&MtS		CA Mill Valley	<b>Mt. Tamalpais Gravity car</b>	2,500	8.2%	
N&CH		TN Cowan	<b>Cowan Hill</b>		2.5%	Cowan's establishment as a place dates from the
N&W		VA Christiansburg	Christiansburg Hill		1.0%	Christiansburg is 8 miles south of Blacksburg, VA
N&W		VA Lofton	Lofton Hill			Lofton is 5 miles northeast of Vesuvius, VA. Pkin is
N&W		VA Starkey	Starkey Hill		1.6%	
NCST		WA Cowlitz	Cowlitz Pass	3,500		The Northern Pacific surveyed this pass in 1869.
NdeM	Mexico	Salazar	<b>Salazar Summit</b>	10,018		Salazar is about 22 miles "as the crow flies" west of
NP		MT Butte	<b>Homestake Pass</b>	6,356	2.2%	
NP		MT Evaro Hill	Evaro Hill Mountain Pass	3,915	2.2%	(Edited from article in "The Cornell Civil Engineer,
NP		MT Helena	<b>Mullan Pass</b>	5,566	2.2%	The 5,548 foot high mile long Mullan Pass route roughly
NP		MT Livingston	<b>Bozeman Pass</b>	5,600	1.8%	The Bozeman Tunnel is 3,500 feet long, and is located

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NP	WA	Cle Elum	<b>Stampede Pass</b>	3,672	2.2%	Stampede Pass is located 25 miles west of Cle Elum,
NP	WA	Spokane	Marshall Canyon (Spokane			
NY&E	NY	Deposit	Susquehanna Hill (Gulf	1,373	1.0%	Gulf Summit, a point about halfway between Deposit,
NYC	NY	Albany (West	West Albany Hill			
OA&E	CA	Oakland	<b>Oakland Hills-Rockridge</b>		4.0%	The terminus of the Oakland, Antioch & Eastern (later
OPR	OR	Sisters	Santiam Pass	4,817		Santiam Pass is located 22 miles west of Sisters, OR
OSL	ID	Victor	Teton Pass to Yellowstone			
OWR&N	OR	Meacham	<b>Pelican Canyon</b>		2.6%	Union Pacific's current grade through the Blue
PGE	Canada	BC	Nakusp	<b>Pine Pass</b>	7,838	Summit Lake is located about 10 miles southeast of
PHIL&C	PA	Philadelphia	<b>Belmont Plane (Incline)</b>		15.0%	The Belmont Plane ran from the Schuylkill River for
PICKL	CA	Tuolumne	Strawberry Grade ("Peeled			In 1927, the Pickering Lumber Company struggled to
PORT&OG	NH	Crawford Notch	<b>Crawford Notch</b>		2.5%	Crawford Notch is the steep and narrow gorge of the
PRR	PA	Altoona	<b>Horseshoe Curve</b>	1,716	1.7%	From Wikipedia, the free encyclopedia Horseshoe
QINGZ	China	Tanggula	<b>Xining-Golmud-Lhasa</b>	16,627		
RG&SW	NM	Lumberton	<b>Hillcrest Pass</b>	7,714		Hillcrest Pass is near Lumberton, NM, which has an
RGS	CO	Lizard Head	<b>Lizard Head Pass</b>	10,222	3.0%	Located 12 miles south of Telluride on State Hwy 145,
RGS	CO	Ophir	<b>Ophir Loop &amp; Trestle</b>	10,250	3.0%	The Ophir Loop was designed to raise the Rio Grande
S&AV	NC	Tyron	<b>Saluda Grade</b>	2,097	5.1%	Saluda Grade, a 5.1% grade, held the record for being
SD&A	CA	Carrizo Gorge	Carrizo Gorge	3,660	2.2%	The San Diego & Arizona was incorporated by John D.
SEMMER	Austria	Semmering	Semmering Pass	3,166		Semmering is a mountain pass in the Eastern Northern
SFP&P	AZ	Prieta	<b>Ramsgate Hill Sierra</b>		3.0%	The Santa Fe, Prescott & Arizona line was noted for its
SILVT	CO	Red Mountain	<b>Red Mountain Pass</b>	11,113		The Silverton Railroad was the first of three narrow
SJ&E	CA	Auberry	<b>Webstone Grade</b>		5.3%	The stations on this line were as follows: Indian Mission,
SOO	WI	Byron	Byron Hill		1.0%	
SP	CA	Banning	San Gorgonio Pass	2,592		San Gorgonio Pass was created by the San Andreas
SP	CA	Beaumont	San Gorgonio Pass	1,591	2.0%	The Southern Pacific, now the Union Pacific, uses this
SP	CA	Livermore	Altamont Pass			Altamont Pass, formerly Livermore Pass, is a mountain
SP	CA	Loma Linda	Beaumont Hill (San	2,500	2.0%	Beaumont Hill (San Gorgonio Pass and San Timoteo
SP	CA	Palmdale	Vincent Grade		2.3%	
SP	CA	Placer	<b>Donner Pass</b>	7,085	2.8%	The discovery and surveying of Donner Pass by
SP	CA	San Fernando	Newhall Pass	750		Newhall Pass is named after businessman Henry
SP	CA	San Luis	Cuesta Grade		2.2%	Cuesta Grade is 17 miles long, and begins at Goldtree
SP	CA	Walong	<b>Tehachapi Pass and Loop</b>	3,793	2.5%	Tehachapi Pass is one of the most strategically
SP	OR	Ashland	<b>Siskiyou Pass</b>	4,135	3.7%	The Siskiyou Line was part of the Southern Pacific main
SP	OR	Chemult	<b>Pengra Pass</b>	5,000		Pengra Pass is part of the SP's Cascade Line, and is
SP	OR	Eugene	<b>Siskiyou Pass</b>		3.7%	
SP	OR	Nashville	<b>Toledo Branch Summit</b>		2.6%	
SR	KY	Erlanger	<b>Erlanger Hill</b>		2.6%	
SR	NC	Willits	Balsam Grade			
StL&SF	MO	Dixon	Dixon Hill			
StPM&M	MT	Kalispell	Haskell Pass (Haskill Pass)	4,300	1.5%	The Columbia Falls-Kalispell line was built in 1891 by
TG&B	Canada	ON	Caledon	Caledon Hill Grade	2.0%	The Caledon Hill grade extended for 4.4 miles, with an
TG&B	Canada	ON	Orangeville	Orangeville Grade	2.0%	Orangeville was located at the foot of a steep grade,
TG&B	Canada	ON	Owen Sound	Owen Sound Grade		Toronto to Kingardine, Canada, 130.00 miles. Branch:
U&D	NY	Pine Hill	<b>Pine Hill Grade</b>	1,886	2.7%	Above Pine Hill Station, the railroad makes a horseshoe
U&N	MT	Deer Lodge	<b>Deer Lodge Pass</b>	5,800		
U&N	MT	Lima	<b>Beaver Canyon</b>	6,820		Monida Pass is located at the summit of Beaver
U&N	MT	Lima	<b>Monida Pass (Continental</b>	6,820		Monida Pass is located at the summit of Beaver
UINTAH	CO	Atchee	<b>Baxter Pass</b>	8,400	7.5%	The Utah Railway was built to transport gilsonite from
UP	CA	Afton	Afton Canyon Cima			Afton Canyon is 37 miles northeast of Yermo, CA, just
UP	MT	West	<b>Reas Pass</b>	6,934		Reas Pass was located on the Idaho-Montana state
UP	NE	Touhy	Touhy Hill			Touhy is 26 miles north of Lincoln, on the Beatrice
UP	NV	Henderson	Railroad Pass	2,367		Railroad Pass, 2367 ft (721.46 m), is a mountain pass
UP	OR	Encina (Baker)	Huntington-Baker line		2.2%	Encina is 14 miles southeast of Baker City on I-84.
UP	OR	Kamela	<b>Meacham Canyon</b>		2.2%	Union Pacific's grade through the Blue Mountains
UP	OR	La Grande	Kamela Mountain	4,205	2.2%	Kamela Mountain is the highest elevation attained by

## Railroad Mountain Passes and Grades by Railroad

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Mountain Passes are the arteries of commerce: without them, the economic growth of the surrounding area, and of the railroad itself would slow or become stagnant...in some cases the very economic lifeblood of the surrounding area or railroad depended on the completion of these engineering and construction achievements. **See end of list for other countries**

RR	Location		Name	Elev (ft)	Grade	Comments
UP	UT	Echo	<b>Helper Locomotives</b>		1.1%	Echo originated as a stopover along the Mormon trail.
UP	UT	Uintah	Helper locomotives			
UP	UT	Uintah	Wasatch Grade MP 985.1		1.1%	
UP	UT	Wahsatch	<b>Wahsatch Station</b>	6,800	1.1%	Evanston was the Union Pacific's primary locomotive
UP	WY	Cheyenne	<b>Archer Hill</b>	6,058	0.7%	Archer Hill is a small eastbound grade on the UP
UP	WY	Cheyenne	Helper Locomotives used			
UP	WY	Evanston	Helper Locomotives			Evanston is about 17 miles east of Wahsatch, where the
UP	WY	Green River	<b>Peru Hill</b>			
UP	WY	Medicine Bow	Helper Locomotives			
UP	WY	Piedmont	Piedmont Hill Helper		1.3%	Piedmont is about 40 miles east of Wahsatch, where the
UP	WY	Rawlins	Helper Locomotives			
UP	WY	Sherman	<b>Evans Pass (original)</b>	8,262		Evans Pass was named after James A. Evans
UP	WY	Sherman	<b>Sherman Hill (1865 track)</b>	8,247	5.1%	The town of Sherman is named in honor of Gen. W. T.
UP	WY	Sherman	<b>Sherman Hill (1953)</b>	7,918	0.8%	The town of Sherman is named in honor of Gen. W. T.
UP	WY	Sherman	<b>Sherman Hill (Borie)</b>	8,014	1.6%	The town of Sherman is named in honor of Gen. W. T.
V&T	NV	Reno	<b>Geiger Grade (Occidental)</b>	6,789	7.0%	Geiger Grade extends from the south of Reno and ends
V&T	NV	Virginia City	Crown Point Trestle			The Crown Point Trestle was a large wooden trestle that
VGN	WV	Mullens	Clark's Gap Grade		2.1%	Elmore is 2 miles west of Mullens, WV on WV Route 16.
WAB	IL	Meredosia	Meredosia Grade		2.0%	The line between Meredosia and Versailles had a 2%
WNY&P	PA	Keating	<b>Keating Summit</b>		2.6%	Keating Summit is located north of Emporium, PA and
WP	CA	Chilcoot-Vinton	<b>Beckwourth Pass</b>	5,220		Beckwith (or Beckwourth) Pass is the lowest mountain
WP	CA	Oroville	<b>Feather River Canyon</b>	5,220	1.0%	The Western Pacific built its mainline to Salt Lake City,
WP	CA	Quincy (East	Williams Loop	3,500		The Williams Loop is a set of spiral tracks formed in a
WP&Y	Canada	BC	<b>White Pass</b>	2,865		
WP&Y	Canada	YT	<b>White Pass</b>	2,885	3.9%	White Pass Summit is located on the border between
WRRMA	MA	Chester	Washington Hill		1.7%	Chester, MA is near the summit of Washington Hill. The
WRRMA	MA	Hinsdale	Hinsdale Summit	141		Hinsdale Summit is about 8 miles east of Pittsfield, MA
ZB	Switzerland	Meiringen	<b>Brunig Pass</b>	3,307	12.0%	Brunig Pass is located between the cities of Meiringen
ZB	Switzerland	Meiringen	Brunig Pass	3,307		The Brünig Pass, at an altitude of 1,008 m (3,307 ft),