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AMGO
ROADS
MAY 19

37 pp

10000/100/520

AMGOT/BIGOT COMMUNICATIONS,
ROADS & RAILWAYS
MAY 1937; APR. 1938; MAR. - MAY 1943

37/92

7814

FROM OR TO

DATE

REF.

No.

Railroads
Foreign Railway Conditions
From: Q (Nov 5 Yr)
From: ...
From: N.O.
Railroads

Report 391 Re 15 Mar.
... No 28.
141F/4515/9(M) 16 tp
141F/4515/9(M) 17 tp
MO 11/100/674 16 tp
1215143

1A
2A
3A
4A
5A
6A

Declassified E.O. 12356 Section 3.3/NND No. 785015

3960

BEST COPY POSSIBLE

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O O MOST SECRET

Note of discussion between LORD RENNELL and F.5 on 10th May, 1943, on

THE FINANCIAL ASPECTS OF THE RAILWAYS IN MORRIS.

1. There are both State owned and privately owned railways. Lord Rennell is arranging that all the railways shall be run by a Railway Commission. He did not think it was necessary to treat them separately.
2. The Commission's accounts of the expenses of running the railways will be kept separately under the C.F.A. It is not proposed that the Army or Civil Affairs should pay for their traffic, but any funds required to meet approved expenses, after allowance has been made for receipts from civilian traffic, will be advanced from Civil Affairs funds. Unpriced vouchers will be kept for record purposes of military and Civil Affairs traffic.
3. As a matter of procedure, the privately owned railways will be requisitioned as property susceptible of direct military use, and the question of settlement with private companies will be left for the Italian Government after the war.

cur.

F.5.
12.5.43.

1/11/62

2. The Commission's accounts on the expenses of railways will be kept separately under the C.F.A. It is not proposed that the Army or Civil Affairs should pay for their traffic, but any funds required to meet approved expenses, after allowance has been made for receipts from civilian traffic, will be advanced from Civil Affairs funds. Unpriced vouchers will be kept for record purposes of Military and Civil Affairs traffic.
3. As a matter of procedure, the privately owned railways will be requisitioned as property susceptible of direct military use, and the question of settlement with private companies will be left for the Italian Government after the war.

C.S.

F.5.
12.5.43.

d/p 11/6/43

P. 11/6/43

*New File - Roads
in Horsfield*

War Office,
Whitehall,
S.W.

M.O.11/D.O./674.

From; The War Office (M.O.11).
Whitehall, S.W.1.

To : Major-General Lord Rennell of Rodd,
A.F.H.Q., Algiers.

We have attached a copy of "Notes on Administration of Roads in Italy" which we have received from I.S.(O) and should be added to their brief "Answers to M.O.11 Questionnaire", which went by War Office bag A.3. We trust this has now arrived safely. (Your A.G. 4279 of 15 April refers).

M.O.11.
16 April.43.

Major G.S.

HEADQUARTERS
DATE : 1 MAY 1943
N: 7808
FORCE 141

you will clear with him
g.s.o.i
Please see 398
and pass to P.
It may be comm. 14/5/43

PA

2/5/43

PA

2/5/43

(5A)

COPY

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Notes on Administration of Roads in Italy.

The administration of roads in Italy is undertaken by the "Direzioni Generale Ponti e Strade" (General Direction of Bridges and Roads) under the direction of the "Ministero dei Lavori Pubblici" (Ministry of Public Works).

There are four distinct types of roads in the country, i.e. :

1. "Autostrade" or National Highways.
2. "Strade Statali" or State Roads.
3. "Strade Provinciali" or Provincial Roads.
4. "Strade Comunali" or Communal Roads.

The Autostrade and Strade Statali are maintained principally at the expense of the State, although the Provinces through which they run also contribute a proportion of the cost which is believed to be about 33%.

The Strade Provinciali are maintained mostly at the expense of the various Provinces although the Communes through which they pass contribute a proportion of the cost believed to be about 25%.

The Strade Comunali are maintained at the expense of the various Communal Councils - (Urban and Rural District Councils).

On all the "Strade Statali" at intervals of about every 10 kilometres there is a "Cantoniera" or repair depot which is maintained at the joint expense of the State and Provincial authorities. A permanent road official resides on the spot and is in charge and responsible for the maintenance and repair of a specific stretch of road. These "Cantonieri" have available a current stock of road implements and materials for normal maintenance.

M.I.10.
9 April 43.

Copies to: I.S.(O) (3)
M.I.3(b)

396

see *Rankings*
7814

Copy No. 15

SECRET

EXCERPT - HISTORY

1037/4315/101

37 Apr 43

Subject: Warrior Facilities

The attached tables show rail clearance facilities at
Ports, and placed estimates of requirements in locomotives and
rolling stock for rail clearance from Ports.

H. A. M. Force,
Field
2/100

W. R. M. Jones
W. R. M. JONES,
Colonel,
(Capt & Co) M. Force.

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accredited unofficial researchers Order
Sec/Army by TAG/ date

4-14-10

3965

E.

PORT CAPACITIES RAIL CLEARANCE EX QUAYS.

Assumptions:

- (i) That rail served quays and berths are in working order.
(ii) That an adequate supply of wagons is available.
(iii) That 50% of military stores landed are for rail served depots or for depots served by nearby stations.

PORT	RAIL SERVED QUAYS		SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO WC 10
	NAME	TRACKS NO. LGTH.	NO.	TYPE			
PALERMO	Banchina Quattroventi	1 800 ft.	1 1	MT/Store Coaster	} 650	325	
	Banchina Puntane	2 1470 ft.	1 1	MT/Store Coaster			
	Pontile Ferrovisario	3 2175 ft.	3	Small Coasters	450	225	
					1750	875	
MAZZARA DEL VALLO	No information. Port is stated to be rail served		3	Small Coasters	300	150	
PORTO EMPEDOCLE	Porto Vecchio (N.W. Quay)	1 800 ft. 1 675 ft.	2	Coasters	600	300	
LICATA	Licata Quay	1 990 ft.	2	Coasters	600	300	

Notes: * Estimated at 50% of line capacity for wagons 22 ft. long.
 ø Narrow gauge.

PORT CAPACITIES RAIL CLEARANCE EX QUAYS.

NO SECRET

NOT HUSKY

40

Served quays and berths are in working order.
 Adequate supply of wagons is available.
 Military stores landed are for rail served depots or for
 served by nearby stations.

RAIL SERVED QUAYS			SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO. OF WAGONS @ 10 Tons.	WORKABLE WAGON X STANDAGE		
NAME	TRACKS		NO.	TYPE						
	NO.	LGTH.								
na troventi	1	800 ft.	1 1	MT/Store Coaster	}	650	325	32	18	Possibly un- suitable for stores owing to dumps of coal. -do-
na ane	2	1470 ft.	1 1	MT/Store Coaster		650	325	32	33	
e roviano	3	2175 ft.	3	Small Coasters		450	225	22	49	Suitable for discharge of lighters to rail.
						1750	875	86		
ormation. is stated to il served			3	Small Coasters		300	150	15	?	
Vecchio (Quay)	1 1	800 ft. 675 ft.	2	Coasters		600	300	30	18 15	
a Quay	1	990 ft.	2	Coasters		600	300	30	22	

Estimated at 50% of line capacity for wagons 22 ft. long.
 low gauge.

Continued.....

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS (Cont'd)

Assumptions:

- (i) That rail served quays and berths are in working order.
- (ii) That an adequate supply of wagons is available.
- (iii) That 50% of military stores landed are for rail served depots or for depots served by nearby stations.

PORT	RAIL SERVED QUAYS			SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	FOR RAIL SERVED DEPOTS	NO. OF WAGNS. @ 10 TONS
	NAME	NO.	LGTH.	NO.	TYPE			
AUGUSTA	Floating Dock Quay	1	350 ft.	-	Lighters	200	200	10
SIRACUSA	La Darsena (N. Side)	1	360 ft.	1	MT/Stores	400	200	20
	Banchina Stazione Marittima	2	600 ft.	1	MT/Stores	400	200	20
	Molo S. Antonio (east)	2	900 ft.	1	MT/Stores	400	200	20
	" " " (west)	2	1140 ft.	1	MT/Stores	400	200	20
	" " " (south)	2	660 ft.	1	MT/Stores	400	200	20
						2,000	1,000	100
CATANIA	Porto Vecchia Wharf	1	350 ft.	2	Small Coasters	300	150	15
	Sporgante Centrale: (S.W. Side)	1	900 ft.	2	MT/Stores	800	400	40
	(Head)	2	200 ft.	1	MT/Stores	400	200	20
	(East)	1	1000 ft.	2	MT/Stores	800	400	40
	Porto Nuovo (S.W. Quay)	1	370 ft.	1	MT/Stores	400	200	20 ϕ
						2,700	1,350	115 S. 20 N.

Note: X Estimated at 50% of line capacity for wagons 22 ft. long.

 ϕ Narrow gauge.

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS (Cont'd)

MOST SECRET

BIGOT HUSKY

(4C)

erved quays and berths are in working order.
 adequate supply of wagons is available.
 of military stores landed are for rail served depots or for
 erved by nearby stations.

	RAIL SERVED QUAYS		SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TGS FOR RAIL SERVED DEPOTS	NO. OF WGN'S. @ 10 TONS.	WORKABLE WAGON X STANDAGE	
	NO.	LGTH.	NO.	TYPE					
	1	350 ft.	-	Lighters	200	100	10	8	
	1	360 ft.	1	MT/Stores	400	200	20	8	
(Side)	2	600 ft.	1	MT/Stores	400	200	20	14	
(zionic)	2	900 ft.	1	MT/Stores	400	200	20	20	
(nio)	2	1140 ft.	1	MT/Stores	400	200	20	26	
(ast)	2	660 ft.	1	MT/Stores	400	200	20	15	
(st)					2,000	1,000	100		
(outh)									
	1	350 ft.	2	Small Coasters	300	150	15	8	
(a Wharf)	1	900 ft.	2	MT/Stores	800	400	40	20	
(ntrele:	2	200 ft.	1	MT/Stores	400	200	20	5	
(ide)	1	1000 ft.	2	MT/Stores	300	400	40	24	
	1	370 ft.	1	MT/Stores	400	200	20 ϕ	8	
					2,700	1,350	115 S.G. 20 N.G.		

0% of line capacity for wagons 22 ft. long.

 ϕ Narrow gauge.

3963

BIASED ESTIMATE OF LOCOMOTIVE AND WAGON REQUIREMENTS: PHASE I.
(Using Standard Gauge Facilities Only)

ASSUMPTIONS: Clearance of 50% of tonnage from reserved quays from Port to Depot (15 miles).

PORT	DAILY TONNAGE: PORT TO DEPOT	No. of Wagons forwarded per day	No. of Wagons (15-ton capacity) per train.	No. of Trains each way per day	Total Train Mileage per day.	Average miles per engine per day.	No. of Main Line Engines in service per day	No. of Shunting Locos in service per day.	Plus 25% for repairs, etc.	TOTAL NO. of LOCOS REQD.	No. of Days Turn- round (wagons)	Total No. of
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
PALEMO	440	44	12	2x4 = 8	8x15 = 120	60	2	1	1	4	4	17
MAZZARA DEL VALLO	75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4	32
PORTO EMPEDOCLE	150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60
LICATA	150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60
AUGUSTA	50	5	5	2x1 = 2	2x15 = 30	60	1	-	1	2	4	20
SIRACUSA	500	50	12	2x5 = 10	10x15 = 150	60	3	1	1	5	4	200
CATANIA	675	60	12	2x6 = 12	12x15 = 180	60	3	2	2	7	4	272
LOCOS:										24	WAGONS	

NOTES: Column (c) assumes average load: 10 tons per wagon.
 " (d) " gross load: 200-250 tons per train.

PHASED ESTIMATE OF LOCOMOTIVE AND WAGON REQUIREMENTS: PHASE I.

(Using Standard Gauge Facilities Only)

MOST SECRET
BIGOT - HUSKY

(40)

Assume of 50% of tonnage from port served quays from Port to Depot (15 miles).

DAILY TONNAGE: PORT TO DEPOT	No. of Wagons forwarded per day	No. of Wagons (15-ton capacity) per train.	No. of Trains each way per day	Total Train Mileage per day.	Average miles per engine per day.	No. of Main Line Engines in service per day	No. of Shunting Locos in service per day.	Plus 25% for repairs, etc.	TOTAL NO. of LOCOMS REQD.	No. of Days Turn- round (wagons)	Total No. of Wagons in service. Plus 20% for repairs, etc.	TOTAL NO. of WAGONS REQD.	
(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
440	44	12	2x4 = 8	8x15 = 120	60	2	1	1	4	4	176	35	211
75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4	32	8	40
150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60	11	71
150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60	11	71
50	5	5	2x1 = 2	2x15 = 30	60	1	-	1	2	4	20	4	24
500	50	12	2x5 = 10	10x15 = 150	60	3	1	1	5	4	200	40	240
675	68	12	2x6 = 12	12x15 = 180	60	3	2	2	7	4	272	55	327
LOCOMS:									24	WAGONS:			904

Column (c) assumes average load: 10 tons per wagon.
 " (d) " gross load: 200-250 tons per train.

PHASED ESTIMATE OF LOCOMOTIVE AND WAGON REQUIREMENTS: PHASE II
(Using Standard Gauge Facilities Only)

ASSUMPTIONS: (A): Clearance of 75% of tonnage from rail served quays from Port to Depot (15 miles).
(B): " " 25% " " " " " " " " Port to Railhead, direct (50 miles).
(C): " " 50% " " " " " " " " from Depot to Railhead (35 miles).

<u>PORT</u>	<u>Assumption</u>	<u>DAILY TONNAGE FORWARD</u>	<u>No. of Wagons forwarded per day.</u>	<u>No. of Wagons (15-ton capacity) per train.</u>	<u>No. of Trains each way per day.</u>	<u>Total Train Mileage per day.</u>	<u>Average miles per engine per day.</u>	<u>No. of Main Line Engines in service per day.</u>	<u>No. of Shunting Locos in service per day.</u>	<u>Plus 25% for repairs, etc.</u>	<u>TOTAL NO. of LOCOS REQD.</u>	<u>No. of Days Turn-round (wagons)</u>
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
PALERMO	A	660	66	15	2x5 = 10	10x15 = 150	60	3	4 Ø	2	9	4
	B	220	22	12	2x2 = 4	4x50 = 200	100	2	2 X	1	5	5
	C	440	44	15	2x3 = 6	6x35 = 210	70	3	2 Y	2	7	5
MAZZARA DEL VALLO	A	115	12	12	2x1 = 2	2x15 = 30	60	1	-	1	2	4
	C	75	8	8	2x1 = 2	2x35 = 70	70	1	-	1	2	5
PORTO EMPEDOCLE	A	225	23	12	2x2 = 4	4x15 = 60	60	1	1 Ø	1	3	4
	B	75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	7
	C	150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	5
LICATA	A	225	23	12	2x2 = 4	4x15 = 60	60	1	1 Ø	1	3	4
	B	75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	7
	C	150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	5
AUGUSTA	A	75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4
	C	50	5	5	2x1 = 2	2x35 = 70	100	1	-	1	2	5
SIRACUSA	A	750	75	15	2x5 = 10	10x15 = 150	60	3	4 Ø	2	9	4
	B	250	25	13	2x2 = 4	4x50 = 200	100	2	3 X	2	7	5
	C	500	50	13	2x4 = 8	8x35 = 280	70	4	2 Y	2	8	5
CATANIA	A	1,015	102	15	2x7 = 14	14x15 = 210	60	4	6 Ø	2	12	4
	B	340	34	12	2x3 = 6	6x50 = 300	100	3	4 X	2	9	5
	C	675	68	15	2x5 = 10	10x35 = 350	70	5	3 Y	2	10	5

NOTES: Col (d) assumes average load 10 tons per wagon.

" (e) assumes gross load 250-300 tons per train.

" (k) Ø = No. of Shunting Locos required in Port area.

X = " " " " " " " " Depot area.

Y = " " " " " " " " Railhead area.

LOCOS: 98

VA

MOST SECRET
BIGOT HUSKY

DAILY TUNNAGE FORWARD	No. of Wagons forwarded per day.	No. of Wagons (15-ton capacity) per train.	No. of Trains each way per day.	Total Train Mileage per day.	Average miles per engine per day.	No. of Main Line Engines in service per day.	No. of Shunting Locos in service per day.	Plus 25% for repairs, etc.	TOTAL NO. of LOCOS REQD.	No. of Days Turn- round (wagons)	Total No. of Wagons in service	Plus 20% for repairs.	TOTAL NO. of WAGONS REQD.
(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
660	66	15	2x5 = 10	10x15 = 150	60	3	4	2	9	4	264	53	317
220	22	12	2x2 = 4	4x50 = 200	100	2	2	1	5	5	110	21	131
140	44	15	2x3 = 6	6x35 = 210	70	3	2	2	7	5	220	44	264
115	12	12	2x1 = 2	2x15 = 30	60	1	-	1	2	4	48	9	57
75	8	8	2x1 = 2	2x35 = 70	70	1	-	1	2	5	40	8	48
225	23	12	2x2 = 4	4x15 = 60	60	1	1	1	3	4	92	18	110
75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	5	40	8	48
150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	3	5	75	15	90
225	23	12	2x2 = 4	4x15 = 60	60	1	1	1	3	4	92	18	110
75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	5	40	8	48
150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	5	75	15	90
75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4	32	6	38
50	5	5	2x1 = 2	2x35 = 70	100	1	-	1	2	5	25	5	30
750	75	15	2x5 = 10	10x15 = 150	60	3	4	2	9	4	300	60	360
250	25	13	2x2 = 4	4x50 = 200	100	2	3	2	7	5	125	25	150
500	50	13	2x4 = 8	8x35 = 280	70	4	2	2	8	5	250	50	300
1,015	102	15	2x7 = 14	14x15 = 210	60	4	6	2	12	4	408	82	490
340	34	12	2x3 = 6	6x50 = 300	100	3	4	2	9	5	170	34	204
675	68	15	2x5 = 10	10x35 = 350	70	5	3	2	10	5	340	68	408
									98	WAGONS:		3,293	

times average load 10 tons per wagon.
 times gross load 250-300 tons per train.
 = No. of Shunting Locomotives required in Port area.
 = " " " " " Depot area.
 = " " " " " Railhead area.

(AF)

16

TOP SECRET

GROUP - RUC

DATE/1915/100

17 pr 43

Subject: Railway Port Facilities

The attached Tables show the proposed facilities at
 Ports, and phased estimates of requirements in locomotives and
 rolling stock for rail clearance from Ports.

H. A. 141 Force,
 Field
 2/11/50

[Signature]
 J. R. HARRISON SMITH,
 Colonel,
 (Major 3 Tr) 141 Force.

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3960

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS.Assumptions:

- (i) That rail served quays and berths are in working order.
- (ii) That an adequate supply of wagons is available.
- (iii) That 50% of military stores landed are for rail served depots or for depots served by nearby stations.

PORT	RAIL SERVED QUAYS			SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO. OF WAGONS 10 Ton
	NAME	NO.	LGTH.	NO.	TYPE			
PALERMO	Banchina Quattroventi	1	800 ft.	1	MT/Store Coaster	} 650	325	32
	Banchina Pantane	2	1470 ft.	1	MT/Store Coaster		325	32
	Pontile Ferroviaria	3	2175 ft.	3	Small Coasters	450	225	22
						1750	875	86
MEZZARA DEL VALLO	No information. Port is stated to be rail served			3	Small Coasters	500	150	15
PORTO EMPEDOCLE	Porto Vecchio (N.W. Quay)	1 1	800 ft. 675 ft.	2	Coasters	600	300	30
LICATA	Licata Quay	1	990 ft.	2	Coasters	600	300	30

Notes: * Estimated at 50% of line capacity for wagons 22 ft. long.
 ø Narrow gauge.

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS.M O S T S E C R E TBIGOT HUSKY

395

quays and berths are in working order.
 supply of wagons is available.
 Military stores landed are for rail served depots or for
 nearby stations.

RAIL SERVED QUAYS			SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO. OF WAGNS. @ 10 Tons.	WORKABLE WAGON X STANDARD		
TRACKS		NO.	TYPE							
	NO.			LGTH.						
nti	1	800 ft.	1 1	MT/Store Coaster	}	650	325	32	18	Possibly un- suitable for stores owing to dumps of coal. -do-
	2	1470 ft.	1 1	MT/Store Coaster		650	325	32	33	
da	3	2175 ft.	3	Small Coasters		450	225	22	49	Suitable for discharge of lighters to rail.
						1750	875	86		
ion. ted to ved			3	Small Coasters		300	150	15	?	
no	1 1	800 ft. 675 ft.	2	Coasters		600	300	30	18 15 1/2	
	1	990 ft.	2	Coasters		600	300	30	22	

at 50% of line capacity for wagons 22 ft. long.
 ge.

Continued.....

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS (Cont'd)

Assumptions:

- (i) That rail served quays and berths are in working order.
- (ii) That an adequate supply of wagons is available.
- (iii) That 50% of military stores landed are for rail served depots or for depots served by nearby stations.

PORT	RAIL SERVED QUAYS			SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO. WAGONS 10 T
	NAME	NO.	LGTH.	NO.	TYPE			
AUGUSTA	Floating Dock Quay	1	350 ft.	-	Lighters	200	100	10
SIRACUSE	La Darsena (N. Side)	1	360 ft.	1	MT/Stores	400	200	20
	Banchina Stazione Marittima	2	600 ft.	1	MT/Stores	400	200	20
	Molo S. Antonio (east)	2	900 ft.	1	MT/Stores	400	200	20
	" " " (west)	2	1140 ft.	1	MT/Stores	400	200	20
	" " " (south)	2	660 ft.	1	MT/Stores	400	200	20
						2,000	1,000	100
CATANIA	Porto Vecchia Wharf	1	350 ft.	2	Small Coasters	300	150	15
	Sporgente Centrale: (S.W. Side) (Head) (East)	1	900 ft.	2	MT/Stores	800	400	40
		2	200 ft.	1	MT/Stores	400	200	20
		1	1000 ft.	2	MT/Stores	800	400	40
	Porto Nuovo (S.W. Quay)	1	370 ft.	1	MT/Stores	400	200	20
						2,700	1,350	115

Note: * Estimated at 50% of line capacity for wagons 22 ft. long.

ø Narrow gauge.

PORT CAPACITIES - RAIL CLEARANCE EX QUAYS (Cont'd)

M O S T S E C R E T

DIGOT HUSKY

Rail served quays and berths are in working order.
 An adequate supply of wagons is available.
 50% of military stores landed are for rail served depots or for
 those served by nearby stations.

3930

NAME	RAIL SERVED QUAYS		SHIP BERTHS		DAILY STORES DISCHARGE TO QUAY	TONS FOR RAIL SERVED DEPOTS	NO. OF WAGONS @ 10 TONS.	WORKABLE WAGON X STANDAGE	
	NO.	LGTH.	NO.	TYPE					
g Dock Quay	1	350 ft.	-	Lighters	200	100	10	8	
ena (N. Side)	1	360 ft.	1	MT/Stores	400	200	20	8	
Stazione Attimis	2	600 ft.	1	MT/Stores	400	200	20	14	
Antonio (east)	2	900 ft.	1	MT/Stores	400	200	20	20	
" (west)	2	1140 ft.	1	MT/Stores	400	200	20	26	
" (south)	2	660 ft.	1	MT/Stores	400	200	20	15	
					2,000	1,000	100		
ecchia Wharf	1	350 ft.	2	Small Coasters	300	150	15	8	
te Centrale: (W. Side)	1	900 ft.	2	MT/Stores	800	400	40	20	
(end)	2	200 ft.	1	MT/Stores	400	200	20	5	
(est)	1	1000 ft.	2	MT/Stores	800	400	40	24	
ovo (Quay)	1	370 ft.	1	MT/Stores	400	200	20 ϕ	8	
					2,700	1,350	115 S.G. 20 N.G.		

at 50% of line capacity for wagons 22 ft. long.

ϕ Narrow gauge.

PHASED ESTIMATE OF LOCOMOTIVE AND WAGON REQUIREMENTS: PHASE I.
(Using Standard Gauge Facilities Only)

ASSUMPTIONS: Clearance of 50% of tonnage from rail served quays from Port to Depot (15 miles).

<u>PORT</u>	<u>DAILY TONNAGE: PORT TO DEPOT</u>	<u>No. of Wagons forwarded per day</u>	<u>No. of Wagons (15-ton capacity) per train.</u>	<u>No. of Trains each way per day</u>	<u>Total Train Mileage per day.</u>	<u>Average miles per engine per day.</u>	<u>No. of Main Line Engines in service per day</u>	<u>No. of Shunting Locos in service per day.</u>	<u>Plus 25% for repairs, etc.</u>	<u>TOTAL NO. of LOCOS REQD.</u>	<u>No. of Days Turn- round (wagons)</u>	<u>Total No. of Wagons in service.</u>
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(k)	(l)	(m)	(n)
PALERMO	440	44	12	2x4 = 8	8x15 = 120	60	2	1	1	4	4	176
MAZZARA DEL VALLO	75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4	32
PONTO EMERDOCLE	150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60
LICATA	150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60
AUGUSTA	50	5	5	2x1 = 2	2x15 = 30	60	1	-	1	2	4	20
SIRACUSA	500	50	12	2x5 = 10	10x15 = 150	60	3	1	1	5	4	200
CATANIA	675	68	12	2x6 = 12	12x15 = 180	60	3	2	2	7	4	272
LOCOS:										24	WAGONS	

NOTES: Column (c) assumes average load: 10 tons per wagon.
 " (d) " gross load: 200-250 tons per train.

PHASED ESTIMATE OF LOCOMOTIVE AND WAGON REQUIREMENTS: PHASE I.
(Using Standard Gauge Facilities Only)

M O S T S E C R E T
ELIGOT - HUSKY

ce of 50% of tonnage from rail served quays from Port to Depot (15 miles).

PORT TO DEPOT	No. of Wagons forwarded per day	No. of Wagons (15-ton capacity) per train.	No. of Trains each way per day	Total Train Mileage per day.	Average miles per engine per day.	No. of Main Line Engines in service per day	No. of Shunting Locos in service per day.	Plus 25% for repairs, etc.	TOTAL NO. of LOCOMS REQD.	No. of Days Turn- round (wagons)	Total No. of Wagons in service.	Plus 20% for repairs, etc.	TOTAL NO. of WAGONS REQD.
(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
440	44	12	2x4 = 8	8x15 = 120	60	2	1	1	4	4	176	35	211
75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	4	32	8	40
150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60	11	71
150	15	10	2x2 = 4	4x15 = 60	60	1	-	1	2	4	60	11	71
50	5	5	2x1 = 2	2x15 = 30	60	1	-	1	2	4	20	4	24
500	50	12	2x5 = 10	10x15 = 150	60	3	1	1	5	4	200	40	240
675	68	12	2x6 = 12	12x15 = 180	60	3	2	2	7	4	272	55	327
LOCOMS:									24	WAGONS:			984

olumn (c) assumes average load: 10 tons per wagon.
" (d) " gross load: 200-250 tons per train.

(Using Standard Gauge Facilities Only)

[illegible]

PORT	Assumption	DAILY TONNAGE FORWARD	No. of Wagons forwarded per day.	No. of Wagons (15-ton capacity) per train.	No. of Trains each way per day.	Total Train Mileage per day.	Average miles per engine per day.	No. of Main Line Engines in service per day.	No. of Shunting Locos in service per day.	Plus 25% for repairs, etc.	TOTAL NO. of LOCOMOTIVES REQD.	No. of Days Turn-
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
PALESTRO	A	660	66	15	2x5 = 10	10x15 = 150	60	3	4 Ø	2	9	4
	B	220	22	12	2x2 = 4	4x50 = 200	100	2	2 X	1	5	
	C	440	44	15	2x3 = 6	6x35 = 210	70	3	2 Y	2	7	
MAZZARA DEL VALLO	A	115	12	12	2x1 = 2	2x15 = 30	60	1	-	1	2	4
	C	75	8	8	2x1 = 2	2x35 = 70	70	1	-	1	2	
	A	225	23	12	2x2 = 4	4x15 = 60	60	1	1 Ø	1	3	
PORTO EMPEDOCLE	B	75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	5
	C	150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	
	A	225	23	12	2x2 = 4	4x15 = 60	60	1	1 Ø	1	3	
LICATA	B	75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	5
	C	150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	
	A	225	23	12	2x2 = 4	4x15 = 60	60	1	1 Ø	1	3	
AUGUSTA	B	75	8	8	2x1 = 2	2x50 = 100	100	1	-	1	2	5
	C	150	15	15	2x1 = 2	2x35 = 70	70	1	-	1	2	
	A	75	8	8	2x1 = 2	2x15 = 30	60	1	-	1	2	
SIRACUSA	C	50	5	5	2x1 = 2	2x35 = 70	100	1	-	1	2	4
	A	750	75	15	2x5 = 10	10x15 = 150	60	3	4 Ø	2	9	
	B	250	25	13	2x2 = 4	4x50 = 200	100	2	3 X	2	7	
CATANIA	C	500	50	13	2x4 = 8	8x35 = 280	70	4	2 Y	2	8	24
	A	1,015	102	15	2x7 = 14	14x15 = 210	60	4	6 Ø	2	12	
	B	340	34	12	2x3 = 6	6x50 = 300	100	3	4 X	2	9	
	C	675	68	15	2x5 = 10	10x35 = 350	70	5	3 Y	2	10	31

NOTES: Col (a) -

NOTES: Col (d) assumes average load 10 tons per wagon.
 " (e) assumes gross load 250-300 tons per train.
 " (k) ϕ = No. of Shunting Locomotives required in Port area.
 X = " " " " " " Depot area.
 Y = " " " " " " Railhead area.

LOCOS: 98

HQB 1-22-22-22

HQB 1-22-22-22

141P/4515/C.M.

16 April 43.

Copy No. 11

Subject: Examination of Italian Railways etc.

Attached are diagrams showing the organization of the Sicilian Division, of the Italian state railways and the location of various departmental offices.

S.O. 141 Force
Held.
1/38

R. Montague Jones
R. MONTAGUE JONES
Colonel
(Major & Co) 141 Force.

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E.

LOC. TION OF DEPARTMENT OFFICES IN SICILY - ITALIAN STATE REVS.

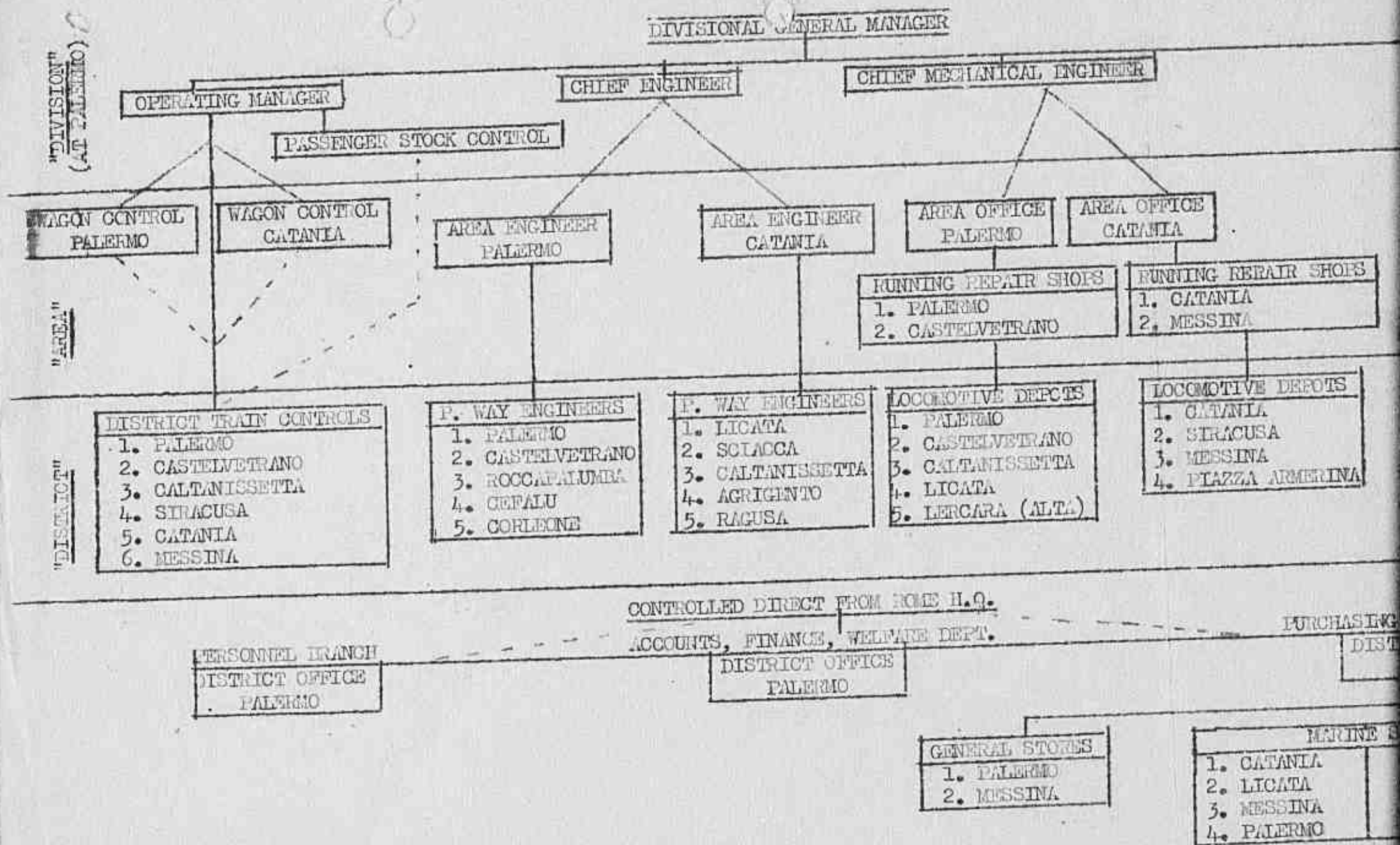
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BIHOT HUSKY

LOCATION OF DEPARTMENT OFFICES IN SICILY - ITALIAN STATE RLYS.

[illegible]

ORGANISATION OF SICILIAN DIVISION: ITALIAN STATE RLYS.



ORGANISATION OF SICILIAN DIVISION: ITALIAN STATE RLYS.

MOI SECRET

HUSKY - HUSKY

DIVISIONAL GENERAL MANAGER

CHIEF ENGINEER

CHIEF MECHANICAL ENGINEER

COMMERCIAL MANAGER

STOCK CONTROL

AREA ENGINEER
PALERMOAREA ENGINEER
CATANIAAREA OFFICE
PALERMOAREA OFFICE
CATANIA

RUNNING REPAIR SHOPS

1. PALERMO
2. CASTELVETRANO

RUNNING REPAIR SHOPS

1. CATANIA
2. MESSINA

P. WAY ENGINEERS

1. PALERMO
2. CASTELVETRANO
3. ROCCAMAURO
4. CEFALU
5. CORLEONE

P. WAY ENGINEERS

1. LICATA
2. SCIACCA
3. CALTANISSETTA
4. AGRIGENTO
5. RAGUSA

LOCOMOTIVE DEPOTS

1. PALERMO
2. CASTELVETRANO
3. CALTANISSETTA
4. LICATA
5. LERCARA (ALTA)

LOCOMOTIVE DEPOTS

1. CATANIA
2. SCIACUSA
3. MESSINA
4. PIAZZA ARMERINA

DISTRICT TRAFFIC MANAGERS

1. PALERMO
2. CATANIA

CONTROLLED DIRECT FROM ROME H.Q.

ACCOUNTS, FINANCE, WELFARE DEPT.

DISTRICT OFFICE
PALERMO

PURCHASING and STORES DEPT.

DISTRICT OFFICE
PALERMO

GENERAL STORES

1. PALERMO
2. MESSINA

MARINE STORES OFFICES

1. CATANIA
2. LICATA
3. MESSINA
4. PALERMO
5. SIRACUSA
6. PORTO EMEROCLE
7. REGGIO DI CALABRIA

[COPY: USB: SS]
[COMPARED:]

No. 28.

REQUIRED REPORT

(Prepared in compliance with Departments Instruction,
File No. 165.363/121, dated May 2, 1938, directed to
certain American Consular Officers for Reports regarding
Foreign Railway Conditions.)



FOREIGN RAILWAY CONDITIONS - SICILY

From

PAUL J. REVELEY,
American Vice Consul.

American Consulate,
Palermo, Italy.

Prepared: January 24, 1939.
Mailed: January 30, 1939.

Approved:

THOMAS MC ENELLY,
American Consul.

SECRET

SECURITY

FOREIGN RAILWAY CONDITIONS - SICILY

From

PAUL J. REVELLEY,
American Vice Consul.

American Consulate,
Palermo, Italy.

Prepared: January 24, 1939.
Mailed: January 30, 1939.

Approved:

THOMAS MC ENELLY,
American Consul.

MOST SECRET

SECRET

SECURITY

3939



SECRET

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-2-

The data for this report was requested from the Palermo office of the Italian State Railways soon after the receipt of the Department's instruction dated May 2, 1938. Sufficient information was obtained only recently from the Palermo office of the State Railways, through the Ministry of Communications in Rome for Part I of the report as outlined in the questionnaire of the Department of Commerce, dated April 30, 1938. This data is contained in the following paragraphs:

I. Names of Railways.

- a) Ferrovie dello Stato.
- b) Ferrovia Circumetnea.
- c) Ferrovia Secondaria Siracusa-Ragusa-Vizzini.

A. Home address.

- a) Direzione Generale delle Ferrovie Dello Stato,
Firenze.
- b) Direzione della Ferrovia Circumetnea,
Societa' Siciliana per i Lavori Pubblici,
Stazione Borgo,
Catania.
(local address the same)
- c) Direzione Societa' Anonima Ferrovia Secondaria
Siracusa-Ragusa-Vizzini,
Piazza C. Battisti, 3,
Siracusa.
(local address the same)

B. Local address.

was obtained only recently from the Palermo Office of the State Railways, through the Ministry of Communications in Rome for Part I of the report as outlined in the questionnaire of the Department of Commerce, dated April 30, 1938. This data is contained in the following paragraphs:

I. Names of Railways.

- a) Ferrovie dello Stato.
- b) Ferrovia Circumetnea.
- c) Ferrovia Secondaria Siracusa-Ragusa-Vizzini.

A. Home address.

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Firenze.
- b) Direzione della Ferrovia Circumetnea,
Societa' Siciliana per i Lavori Pubblici,
Stazione Borgo,
Catania.
(local address the same)
- c) Direzione Societa' Anonima Ferrovia Secondaria
Siracusa-Ragusa-Vizzini,
Piazza C. Battisti, 3,
Siracusa.
(local address the same)

B. Local address.

- a) Direzione delle Ferrovie dello Stato,
Via Roma,
Palermo.

C.....

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C. Nationality of ownership.

Italian, for all three railways.

D. Length of line.

1. Single, or first track.

a)		b)		c)	
Ferrovia dello Stato		Ferrovia Circum- etnea:		Ferrovia Siracusa- Vizzini:	
Gauge.....	Standard	Narrow	Narrow	Narrow	Narrow
Kilometers..	1,290	580	124	119	
Crossties	1,				
per km.....	1,333	1,333	-	-	-
Quality of					
Crossties..	Oak & beech.	Oak & beech	-	-	-
Length of					
Rails.....	36 m	27 m	-	-	-
Weight of					
rails.....	46.3 &				
per m. ...	50.6 kg.	-	-	-	-

2. Other main track.

None.

3. Yard track and sidings. (for Ferrovia dello Stato only.)

Gauge:	Km.:
Standard	333.6
Narrow	45.0
Total.....	400.6

4. Total track mileage.

2,513.6 kilometers.

5. Routes and termini of individual lines.

(a) Principal railroads in operation:

1. Single, or first track.

a)		b)	c)
Ferrovia dello Stato		Ferrovia Circum- etnea:	Ferrovia Siracusa- Vizzini:
Gauge.....	Standard	Narrow	Narrow
Kilometers..	1,290	124	119
Crossties	1,	-	-
per km.....	1,333	-	-
Quality of			
Crossties..	Oak & beech. Oak & beech	-	-
Length of			
Rails.....	36 m	-	-
Weight of			
rails.....	46.3 &	-	-
per m. ...	50.6 kg.	-	-

2. Other main track.

None.

3. Yard track and sidings. (for Ferrovia dello Stato only.)

Gauge:	Km.:
Standard	353.6
Narrow	45.0
Total.....	400.6

4. Total track mileage.

2,513.6 kilometers.

5. Routes and termini of individual lines.

(a) Principal railroads in operation:

(1) Palermo, -....

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- (1) Palermo, - Termini Imerese - Messina.
- (2) Messina - Catania - Syracuse.
- (3) Palermo - Termini Imerese - Caltanissetta -
Xiribi - Catania.
- (4) Syracuse - Ragusa - Licata - Canicatti.
- (5) Palermo - Castelvetro - Marsala - Trapani.
- (6) Catania - Valsavoia - Caltagirone.
- (7) Caltanissetta Xiribi - Caltanissetta - Aragona-
Agrigento.
- (8) Roccapalumba - Alia - Agrigento - Porto Empedocle.

(b) Secondary lines in operation.
(narrow gauge)

- (1) Agrigento - Marzonia - Licata.
- (2) Lercara Bassa - Filaga - Magazzolo.
- (3) Palermo - Corleone - S. Carlo.
- (4) Castelvetro - Sciseca - Magazzolo -
Porto Empedocle.
- (5) Dittaino - Leonforte.
- (6) Dittaino - Piazza Armerina - Caltagirone.
- (7) Burgio - S. Carlo - Castelvetro.
- (8) Filaga - Palazzo Adriano.
- (9) Canicatti - Marzonia - Naro.
- (10) Salemi - Santa Ninfa.
- (11) Catania - Randazzo - Riposto. (Circumetnea)
- (12) Giarratana - Vizzini Campagna.
- (13) Syracuse - Giarratana - Ragusa.

Xiribi - Catania.

- (4) Syracuse - Ragusa - Licata - Canicatti.
- (5) Palermo - Castelvetro - Marsala - Trapani.
- (6) Catania - Valsavoia - Caltagirone.
- (7) Caltanissetta Xiribi - Caltanissetta - Aragona - Agrigento.
- (8) Roccapalumba - Alia - Agrigento - Porto Empedocle.

(b) Secondary lines in operation.
(narrow gauge)

- (1) Agrigento - Margonia - Licata.
- (2) Lercara Bassa - Filaga - Mazzuolo.
- (3) Palermo - Corleone - S. Carlo.
- (4) Castelvetro - Scissoca - Mazzuolo - Porto Empedocle.
- (5) Dittaino - Leonforte.
- (6) Dittaino - Piazza Armerina - Caltagirone.
- (7) Burgio - S. Carlo - Castelvetro.
- (8) Filaga - Palazzo Adriano.
- (9) Canicatti - Margonia - Naro.
- (10) Salemi - Santa Ninfa.
- (11) Catania - Randazzo - Riposto. (Circumetnea)
- (12) Giarratana - Vizzini Campagna.
- (13) Syracuse - Giarratana - Ragusa.

6. Total mileage of electrified track.

None.

39.4

7. Amount of

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7. Amount of track constructed during the year.

(Note: 1) 47. Km of main track.

(Note: 2) None.

(Note: 3) 15. Km of yard tracks and sidings etc.

E. Total length of bus and truck routes operated by the individual railways.

1. The railway companies do not maintain bus lines.

2. The railway companies do not maintain truck lines.

F. List names and addresses of operating officials.

Most of the purchases are made through the general head office of the "Ferrovie dello Stato", Florence.

G. Freight originated.

No information furnished.

Note: Total freight during the calendar year 1937 in metric tons: 2,602,778.

3948

H. Freight received.

No information furnished.

I. Freight ton mileage.

In 1933 421,000,000 metric ton-kilometers shipped.

(Note: 2) None.

(Note: 3) 15. Km of yard tracks and sidings etc.

E. Total length of bus and truck routes operated by the individual railways.

1. The railway companies do not maintain bus lines.
2. The railway companies do not maintain truck lines.

F. List names and addresses of operating officials.

Most of the purchases are made through the general head office of the "Ferrovie dello Stato", Florence.

G. Freight originated.

No information furnished.

Note: Total freight during the calendar year 1937 in metric tons: 3,602,778.

3948

H. Freight received.

No information furnished.

I. Freight ton mileage.

In 1933 421,000,000 metric ton-kilometers shipped.

J. Average freight rate per ton-mile.

No information furnished.

K. Passengers carried.

SECRET

SECURITY

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K. Passengers carried.

4,480,000 passengers in the year 1933.

L. Passenger miles.

Passenger kilometers in the year 1937: 773,721,200.

M. Operating revenues.

No information furnished.

N. Other revenues.

No information furnished.

O. Operating expenses.

No information furnished.

3947

Note: Total wage expenditures for the year 1937 were Lire: 86,508,575.39.

P. Other expenses.

No information furnished.

Q. A statement showing the financial condition of the system.

No official figures are available.

Note: Unofficially it has been stated that in the year 1933 operating expenses (excluding interest on

L. Passenger miles.

Passenger kilometers in the year 1937: 779,721,200.

M. Operating revenues.

No information furnished.

N. Other revenues.

No information furnished.

O. Operating expenses.

No information furnished:

397

Note: Total wage expenditures
for the year 1937 were
Lire: 86,508,575.39.

P. Other expenses.

No information furnished.

Q. A statement showing the financial condition of the
system.

No official figures are available.

Note: Unofficially it has been
stated that in the year
1933 operating expenses
(excluding interest on
invested capital) were
1.1 times larger than
earnings. It is believed
that the operation of the
Sicilian railway net is
still unproductive.

SECRET

SECURITY

R. Total number of train accidents, ...

SECRET
SECURITY

-7-

E. Total number of train accidents, and resulting casualties to travelers, employees and trespassers.

The total number of accidents in the year 1937

were:

on the main lines.....	831
on secondary lines.....	51
on highway grade-crossings.....	26

a. Safety measures introduced.

None.

1. Grade-crossing elimination program.

No information furnished.

E. Equipment.

a. In operation.

No information furnished.

b. Not in operation.

No information furnished.

c. Purchased during year.

No information furnished.

d. General condition of equipment.

Good.

3910

were:

on the main lines..... 831
on secondary lines..... 51
on highway grade-crossings..... 26

a. Safety measures introduced.

None.

1. Grade-crossing elimination program.

No information furnished.

S. Equipment.

a. In operation.

No information furnished.

b. Not in operation.

No information furnished.

c. Purchased during year.

No information furnished.

d. General condition of equipment.

Good.

e. Fuel.

An average of 200 grams of fuel are used
to haul one metric ton of freight for one
kilometer.

SECRET

SECURITY

f.

3940

SECRET
SECURITY

-8-

1. Type of brakes in general use.

Westinghouse, Henry. Vacuum brakes system Hardy
on narrow gauge locomotives.

2. Approximate figures on highway transport traffic.

a. Total mileage of passenger and freight high-
way transport routes.

30,800,000 passenger-kilometers in the
year 1930.

b. Total number of passengers and tons.

2,600,000 passengers transported with auto-
buses in 1930.

3. Type of signalling used.

No information furnished.

4. Radio on railway trains.

a. No.

b. No.

c. No.

3942

5. Total wages, number and nationality of employees.

Nationality of employees: Italian.

Number: 7,861.

Total wages paid in 1937: Lire 86,508,575.39.

2. Approximate figures on highway transport traffic.a. Total mileage of passenger and freight highway transport routes.

30,800,000 passenger-kilometers in the year 1930.

b. Total number of passengers and tons.

2,600,000 passengers transported with autobuses in 1930.

3. Type of signalling used.

No information furnished.

4. Radio on railway trains.

a. No.

b. No.

c. No.

3940

5. Total wages, number and nationality of employees.

Nationality of employees: Italian.

Number: 7,861.

Total wages paid in 1937: Lire 86,508,575.39.

6. Extent to which air conditioning has been introduced.

No ...

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No air conditioning and no plans to introduce it.

7. Legislation, construction and other items of interest occurring during the year.

No information furnished.

8. Supplementary information.

Effective January 1, 1939 the railway passenger rates were increased 20 percent.

9. Pipe line data.

No pipe lines constructed.

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No information furnished.

8. Supplementary information.

Effective January 1, 1939 the railway passenger rates were increased 20 percent.

9. Pipe line data.

No pipe lines constructed.

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The average rate of exchange during the years
1937 - 1938, was lire 18.965 equal one dollar (United
States currency.)

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Report No. 391

Prepared in compliance with the Department's instruction of April 5, 1937. File No. 165.363/101.

THE RAILROADS OF SICILY

From: W. EVERETT SCOTTEN, American Vice Consul
American Consulate, Palermo, Italy
May 22, 1937.

1. Present Extension and Traffic

With the opening of the line to Pachino, Sicily secured a total length of railroads of 2,095 kilometers. Of these 1,295 are of standard gauge (1.435 meters) single track and are operated with steam* by the State Railways system (Ferrovie dello Stato); 800 kilometers are narrow gauge (0.95 meters) single track steam operated, of which 50 kilometers are rack-and-pinion, the majority (557 kilometers) being run by the State Railways and the remainder by two private concerns, the Circumetnea (Società Siciliana per i Lavori Pubblici) of 119 kilometers, and the Syracuse-Vizzini-Ragusa line (Società Anonima per le Ferrovie della Sicilia) of 124 kilometers.

The following table indicates the principal characteristics of the railroad lines of the island:

(as of January 1, 1936)

	Gauge	
	Standard	Narrow
Real length	1,295	800
Mean virtual length	1,950	1,800
Maximum grade	25	40*(70)
Distance between despatching points	7-16	10-18
Speed permitted by roadbed	100-60	30*(10)
Practical speed of passenger trains	57-35	20

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The following table indicates the principal characteristics of the railroad lines of the island:

(as of January 1, 1936)

		Guage Standard Narrow	39 1/2
Real length	Kilometers	1,295	800
Mean virtual length	Kilometers %	1,950 25	1,800 40*(70)
Maximum grade			
Distance between despatching points	Kilometers	7-16	10-18
Speed permitted by roadbed	Kilometers	100-60	30*(10)
Practical speed of passenger trains	Kilometers	57-35	20

* Rack-and-pinion

In its entirety this railroad system represents 5.24 kilometers per 10,000 inhabitants and 8.14 kilometers per hundred square kilometers of area, which is close to,

though

Note: Autorail (Gasoline) service, since 1936 on certain lines--see appendix.

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though it exceeds, the average for all Italy of 5.5 and 7.4 kilometers, respectively. But if the railroad facilities of Sicily are considered in relation to the traffic they are called upon to carry rather than to the area and population of the island, it will appear that they are unquestionably more than adequate. This situation is illustrated by the following table, which presents a comparison of the traffic of Sicilian railroads with that of railroads in the entire country and in a typical region of northern Italy.

Railroad traffic, 1933

	<u>Sicily</u>	<u>All Italy</u>	<u>Lombardy</u>
Train-kilometers (millions)	9.25	168.7	23.40
Trains per kilometer of line	4,586	7,300	10,640
Trains per day (average)	12.5	20	29
Passengers (millions)	4.46	140	37
Freight loaded (millions of metric tons)	2.08	40.3	6.03
Train-kilometers per passenger	2.07	1.20	0.63
Train-kilometers per metric ton of freight	4.44	4.18	3.88

It must be taken into consideration that Sicily has no railroad traffic in transit and that its lines accordingly carry only the freight and passengers of the island itself, whereas the railroads of almost all the other regions of Italy, progressively in greater degree towards the North, must handle besides the local traffic, that of other districts in transit. For this reason the quality of equipment is found also to ameliorate progressively towards the northern part of the country as regards right of way, including such improvements as double tracking, ballast, and electrification, as well as accommodations for passengers and freight, sorting systems, safety devices, and organization of stations, the speed and capacity of the lines in that part of the country being proportionally increased. Hence it may be concluded that the length of right of way in existence in Sicily could carry a much heavier volume of traffic with some improvement in equipment, more frequent stations, longer sidings, more complete application of block signals, and somewhat heavier rails. This is illustrated by the following table which shows the volume of passengers and freight carriage in the year

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[Table]

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Volume of Passengers and
Freight Carried, 1933.

	<u>Sicily</u>	<u>All Italy</u>	<u>Lombardy</u>
Passenger- kilometers (millions)	464	8,100	1,990
Average length of journey (kilometers)	104	58	54
Passengers per kilometer of line	2,200	6,090	16,700
Annual journeys per inhabitant	1.14	3.40	6.80
Average length of journey per inhabitant (kilometers)	119	196	359
Metric Ton- kilometers shipped (mil- lions)	421	8,987	1,173
Average distance of shipment (kilometers)	202	223	194
Freight per kilo- meter of line (metric tons)	1,025	1,767	2,740
Freight per inhabitant (metric tons)	0.53	0.98	1.09
Metric ton kilo- meters per inhabitant	105	220	210

The reduced volume of passengers and freight is plain enough from the above. The following points worthy of note are also illustrated:

(a) the negative attitude of Sicilians toward travel, based on the average annual journey per individual, which is only 61% of the average for all Italy;

(b) the excessive length of each journey (180% of the national average) due to the geographical position of the island with respect to the capital and to the principal and tourist centers;

(c) the reduced movement of freight, which is only 54% of the average for all Italy.

39.0

kilometers (millions)	104	58	54
Average length of journey (kilometers)			
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39:0

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(c) the reduced movement of freight, which is only 54% of the average for the country if estimated on the basis of population and 60% thereof, if based on area.

With this traffic the average gross earning per kilometer of line in Sicily was in 1933 lire 76,200, while the average of all Italy was lire 142,000 and that of Lombardy lire 232,000. The average cost of operation per kilometer in Sicily (supplementary expenses included,

interest

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interest on capital excluded) is estimated at lire 88,500; hence the average operation coefficient was 1.16.

It may be considered that this state of affairs continued without change in 1934; in 1935 and 1936, however, there appears to have been a slight improvement, the extent of which cannot yet be evaluated for lack of statistical data*. To the disequilibrium noted above, the narrow gauge lines contribute in large measure, these constituting 38% of the entire system of the island, representing the highest proportion to be found in any region of Italy. Somewhat closer examination is due these lines, the traffic of which, on account of their location and the nature of the country traversed and centers of population served, is exceedingly limited, as illustrated by the following table:

Narrow Gauge Lines of Sicily, 1933

Traffic

Train-kilometers 1,830,000
ditto per kilometer of line 2,280
Average daily trains per line 6

Passengers Carried

Passenger-kilometers 22,000,000
Passengers 1,300,000
Average length of journey (kilometers) 330

Freight Carried

Metric tons-kilometers 7,700,000
Freight loaded (metric tons) 263,000
Average distance of shipment (kilometers) 292

In 1934 and 1935 it is understood the traffic on these lines diminished somewhat further.

From this table it appears that the average load for each train was 12 passengers and 4 metric tons of freight. Taking into account indirect sources of income, in 1934/35 these lines produced a total gross return of about 8,000,000 lire, while the operating expenses for the same period computed as above amounted to 26,700,000 lire, giving an operation coefficient of no less than negative 3.3. Hence the average return per kilometer of line was around 10,000 lire, roughly a third of the average return of all narrow gauge lines under private management. It should be taken into account that the operating expenses are already considerably reduced by the

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Average daily trains per line

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6

Passengers Carried

Passenger-kilometers
Passengers
Average length of journey (kilometers)

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357

Freight Carried

Metric tons-kilometers
Freight loaded (metric tons)
Average distance of shipment (kilometers)

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* Note: Censored during
Sanction period.

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replacement of fixed equipment and rolling stock and repairs to the right of way occasioned by natural causes seem to be very large, so much so that an average cost of operation of 30,000 lire per kilometer now appears to be an irreducible minimum for the maintenance of a service of at least two trains a day in either direction. Hence lines which produce less than 30,000 lire per kilometer lose money. No narrow gauge line on the island produces more than 22,000 lire per kilometer, and some produce even less than 3,000 lire.

In spite of these unfavorable conditions obtaining in the railway system of Sicily, other lines are in the course of construction and still more are under study. The following lines were being built on the island during the year 1936.

<u>Line</u>	<u>Length in Kilometers</u>	<u>Gauge</u>	<u>% of work completed</u>
Trapani-Segesta	44	Normal	80
Giardini-Randazzo	41	"	85
Nicosia-Schettino	82	"	50
Canicattì-Caltagirone	85	"	30
Salemi-Kagera	26	Narrow	85
Palermo-Salaparuta	85	"	60
Nicosia-Leonforte	23	"	85
<u>Total kilometers</u>	<u>286</u>		

3438

The total volume of traffic carried in Sicily by rail, tram, and highway in the year 1933/34 was as follows:

Volume of traffic carried in Sicily by rail, tram, and highway in the year 1933/34

	<u>Sicily</u>	<u>All Italy</u>	<u>Lombardy</u>
Passengers (millions)	8.8	329	78
Passenger-kilometers (millions)	450	9400	2110
Average length of journey (kilometers)	51	29	27
Annual length of travel per inhabitant (kilometers)	112	224	377
Freight loaded (millions of metric tons)	2.1	41	7.2
Ton-kilometers (millions)	421	9400	1080
Average length of haul (kilometers)	200	230	164

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Average length of haul (kilometers)	200	230	164
Freight loaded per inhabitant (met. T)	0.525	0.983	1.286
Freight loaded per square kilometer of area (metric tons)	82	132	302
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In the above figures there is not included traffic within cities, that effected by sea or air, nor that carried by privately owned vehicles. They illustrate the fact that the inhabitants of the island travel only half as much as the average frequency per inhabitant in the entire country and that the movement of freight is only 53% of the average of the entire country.

2. Interference between Rail and Highway or Tram Transportation

Railway freight traffic is found to have suffered very little through the competition of the highway or tram lines. As in the rest of Italy, freight carried by the latter means is in general baggage, mail, valuable merchandise, and goods which ordinarily accompany travelers themselves. On the other hand, passenger traffic of the railroads suffered considerably more, though in Sicily highway transportation was far from being as widely developed as in other parts of the country. This situation is illustrated by the following table, showing comparative statistics covering rail and highway traffic during the year 1930, the latest period for which such material is obtainable.

Rail and highway traffic during the year 1930.

	<u>Sicily</u>	<u>All Italy</u>	<u>Lombardy</u>
Length of tram lines (kilometers)	72	4,550	941
Length of highway services (kilometers)	5,860	90,205	9,643
Train-kilometers by tram (millions)	0.8	46.5	12.15
Autobus-kilometers (millions)	4.8	77	9.6
Average return per tram (kilometer) Lire	60,000	53,000	86,000
Average return per autobus (kilometer) Lire	2,430	2,470	3,210
Passenger-kilometers by tram (millions)	25.7	1,395	381
Passenger-kilometers by autobus (millions)	30.8	507	75.8
Passenger by tram (millions)	3.2	187	52
Passengers by autobus (millions)	2.6	40.8	6.4
	1.4	2.94	3.9

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Passenger by tram (millions)	3.2	187	52	
Passengers by autobus (millions)	2.6	40.8	6.4	
Tram and autobus kilometers per inhabitant	1.4	2.94	3.9	
Tram and autobus kilometers per square kilometer of area	218	400	930	
Average length of journey (kilometers)	9.7	8.3	7.8	
Average annual length of journey per inhabitant	14.1	45	82	

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The following table indicates the increase in highway traffic of Sicily over the years 1927, 1930, and 1934:

Highway traffic of Sicily

Interurban autobus lines in service (both permanent and temporary)

	1927	1930	1934
Length of line (kilometers)	2900	4500	4700
Passengers carried (millions)	1.600	2.550	2.300
Average return per kilometer of line (lire)	2550	2480	1650

The following table shows the division of traffic between highway and rail transportation in Sicily in the year 1934.

	Highway lines (permanent and temporary in- cluded)		Railways	
	Year 1934:		Normal gauge:	Narrow gauge:
Passengers (millions)	2.3		4.6	1
Return (millions of lire)	7.7		61	393
Average length of journey (kilometers)	11.2		105	26
Relation to total number of passengers	0.29		0.58	0.13
Relation to total number of passenger-kilometers	0.087		0.825	0.088
Relation to total return	0.10		0.82	0.08

From the first of these two tables it is clear that the period of expansion of highway transportation at the expense of the railroads was nearly finished in 1934, from which it may be assumed that today on the island the division of traffic between the two types of transportation may be considered to have become definitely established. From the second it may be deduced that, if all highway traffic were developed at the expense of the railroads (which is not the case), the loss to the latter judging from the return would have been only 10%. But though the detriment to the business of the railroads in general due to this cause does not seem to have been very considerable, the effect thereof on the narrow gauge lines considered separately appears to have been very considerable.

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[Table]

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	<u>1924</u>	<u>1929</u>	<u>1934</u>
Length in operation (kilometers)	438	487	560
Return from passengers (millions of lire)	4.3	4.7	2.06
Return from freight (millions of lire)	2.0	3.3	2.10
Return from passengers per kilometer of line (lire)	9,800	9,635	3,680
Return from freight per kilometer of line (lire)	4,560	6,765	3,750

Aside from the effect of the depression which continued to increase from 1929 to 1934, it is easy to see that while freight in these ten years underwent a diminution of 18%, passenger traffic fell off by 62%. It may be hence concluded that highway transportation took away from the narrow gauge railroads nearly two thirds of their passenger traffic. Thus while between 1924 and 1934 the length of narrow gauge lines increased by 28% and the length of narrow gauge lines increased by 28% and the freight traffic rose 5%, the passenger traffic fell off 52%. Or it may be calculated that due to this cause in Sicily there has been a loss of 3% of the total passenger-kilometers on standard gauge lines and 45% on narrow gauge lines.

3. Conclusions

The conclusions to be drawn from the foregoing are that Sicily is over-equipped with railways, that the narrow gauge railroads are uneconomical, and that highway competition, though now static, affects most acutely the latter. The explanation of the fact that railroad building is continuing on the island, on some lines with almost feverish activity, is twofold: the lines actively under construction are of primary strategic importance for the defence of the island, while the opportunity is provided at the same time to lay out funds in public works which partially assist in alleviating unemployment and in building up a favorable attitude of the population toward the administration. A glance at the map and at the table on page 8 will serve to indicate the scope of the construction now in progress to be (a) to provide inland rail communication between Messina and Enna, the key point of the defence of Sicily; (b) at the same time completing a fan-shaped system of communications converging on Messina and essential to the defence of that place; (c) providing a transverse line of communication on the

Return from passengers (millions of lire)	2.0	3.3	2.10
Return from freight (millions of lire)			
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APPENDIX

ANALYSIS OF THE SYSTEM OF RAIL- COMMUNICATIONS OF SICILY

A. Principal railroads in operation:

1. Palermo - Termini Imerese - Messina

Measures 233 kilometers, joining along the Tyrrhenian coast of the island such very important centers as Termini, Cefalù, S. Stefano di Camastra, S. Agata di Militello, Naso, Patti, Barcellona, Milazzo.

The fastest trains cover the full length in 4 hours 45 minutes with a general average speed of 46 kilometers per hour.*

Between Messina and Villafranca (20 km.) the line has been equipped with heavy rails; for the remainder (now provided with 34 to 36 kilogram rails) reinforcement has been under way; there is a block signal system in the stretch from Palermo to Fiumetort (45 km.). The maximum difference in altitude is between 7 and 133 meters above sea level.

2. Messina - Catania - Syracuse (*)

Measures 182 kilometers and joins on the eastern side of the island such centers of population as S. Teresa, Taormina, Giarre, Acireale, Lentini, Augusta. The line can be covered from one end to the other by the fastest trains in 3 hours 40 minutes at an average speed of 49 km. per hour. (*) But on the Messina - Catania stretch alone the average can be raised to about 54 km. per hour. Between Messina and Valsavoja (118 km.) the line is provided with heavy rails, on the rest with 34 and 36 kilo rails. This line has the highest rate of return per kilometer of the entire system and is one of the best and most profitable in Italy. The maximum difference in altitude is between 4 and 122 meters above sea level.

3. Palermo - Termini Imerese - Caltanissetta - Xirbi - Catania

With an entire length of 243 km., this is the only system running lengthwise of the interior of the island. The fastest trains accomplish the entire distance in 4 hours 45 minutes.

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3. Palermo - Termini Imerese - Caltanissetta - Xirbi - Catania

With an entire length of 243 km., this is the only system running lengthwise of the interior of the island. The fastest trains accomplish the entire distance in 5 hours 37 minutes with an average speed of around 43 kilometers./*/ From the lowest level of 7 meters above sea level, the line rises to an altitude of 586 meters. The

track,

Note: *Gasoline autorail - 3 hours 15 minutes average speed 72 kilometers.
 (*) Autorail - 2 hours 38 minutes - avr. speed 69 km.
 (*pachino not included.
 /*/ Autorail - 3 hours 35 minutes - avr. speed 68 km.

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track, which is laid with 34-36 kilo rails, is being replaced with heavier rails.

4. Syracuse - Ragusa - Licata - Canicatti

This line, 264 km. in length with a difference of altitude between 4 meters and 512 meters in one part and between 9 and 468 meters above sea level in another, joins such important and populous centers as Noto, Modica, Ragusa, Comiso, Vittoria, Gela, and Licata. The roadbed is as in 3. preceding. The run can be made in 8 hours with an average speed of 33 km.

5. Palermo - Castelvetro - Marsala - Trapani

This covers a distance of 195 km. broken by two grades, one between 15 and 141 meters above sea level and the other between 4 and 233 meters. The distance can be covered in 4 hours with an average speed of about 49 km.* The line united Partinico, Castellamare, Alcamo, Salemi, Castelvetro, Marsala. The tracks are light and are to be replaced with reinforced rails weighing 36 kg.

6. Catania - Valsavoia - Caltagirone

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Between levels of 12, 577, and 512 meters above sea level, this line, 92 km. in length, joins Militello, Mineo, Vizzini, etc. The line can be covered in 1 hour and 54 minutes at an average speed of 45 km. The roadbed is as in No. 3.

7. Caltanissetta Xirbi - Caltanissetta - Aragona - Agrigento

Surmounting one grade between 7 and 85 meters above sea level over a length of 85 kilometers. This road links S. Cataldo, Canicatti, Racalmuto. The run can be made in 2 hours 56 minutes at an average speed of 28 km. (*) The tracks (34-36 kg.) have been renewed and reinforced.

8. Roccapalumba - Alia - Agrigento - Proto Empedocle

Grade between 4 and 646 meters over a length of 76 km. which can be covered in 2 hours 9 minutes at an

altitude between 4 and 468 meters above sea level in another, and between 9 and 468 meters above sea level in another, joins such important and populous centers as Noto, Modica, Ragusa, Comiso, Vittoria, Gela, and Licata. The roadbed is as in 3. preceding. The run can be made in 8 hours with an average speed of 33 km.

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3933

Between levels of 12, 577, and 512 meters above sea level, this line, 92 km. in length, joins Militello, Mineo, Vizzini, etc. The line can be covered in 1 hour and 54 minutes at an average speed of 45 km. The roadbed is as in No. 3.

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Surmounting one grade between 7 and 85 meters above sea level over a length of 85 kilometers. This road links S. Cataldo, Canicatti, Racalmuto. The run can be made in 2 hours 56 minutes at an average speed of 28 km. (*) The tracks (34-36 kg.) have been renewed and reinforced.

8. Roccapalumba - Alia - Agrigento - Proto Empedocle

Grade between 4 and 646 meters over a length of 76 km. which can be covered in 2 hours 9 minutes at an average speed of 35 km. Track as in No. 7.

(b) Secondary

Note: * Autorail - 3 hrs. 6 min. - avr. speed 66 km.
(*) Autorail - 1 hr. 27 min. - avr. speed 52 km.

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(b) Secondary lines in operation (narrow gauge).

1. Agrigento - Margonia - Licata (82 km.)
2. Lercara Bassa - Filaga - Magazzolo (106 km.)
3. Palermo - Corleone - S. Carlo (107 km.)
4. Castelvetro - Sciacca - Magazzolo - Porto Empedocle (124 km.)
5. Dittaino - Leonforte (28 km.)
6. Dittaino - Piazza Armerina - Caltagirone (81 km.)
7. Burgio - S. Carlo - Castelvetro (81 km.)
8. Fialaga - Palazzo Adriano (23 km.)
9. Canicattì - Margonia - Naro (15 km.)
10. Salemi - Santa Ninfa (10 km.)

All the above are covered at an average speed of 18-20 kilometers.

11. Catania - Randazzo - Riposto (Circum - Etnea) (120 km.)
12. Giarratana - Vizzini Campagna (31 km.)
13. Syracuse - Giarratana - Ragusa (97 km.)

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