iMONITRAF!

Annual Report 2015

A proposal on Toll Plus and the future of iMONITRAF!

Climonomics

INFRAS

iMONITRAF! Annual Report 2015

A proposal on Toll Plus and the future of iMONITRAF!

INFRAS/Climonomics with inputs of iMONITRAF! partners

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CONTENT

The iMONITRAF! year 2015 at a glance

iMONITRAF! –specific proposals for common measures

The Alpine regions still face a high need for action to improve the environmental situation along the transit corridors. Air quality limits are still exceeded in many areas and modal shift from road to rail is stagnating except along the Gotthard corridor. Thus, the region Rhône-Alpes, the autonomous Provinces of Bolzano and Trento, the autonomous Regions of Aosta Valley and Friuli-Venezia Giulia, the Region Piedmont, the Canton of Ticino, Central Switzerland, the Land of Tyrol as well as the Accademia Europea di Bolzano (EURAC) successfully continued their cooperation in the year 2015 to further specify elements of their common transport strategy. Especially, a proposition – developed by iMONITRAF! - for a Toll Plus system from the perspective of the regions was documented in an in-depth report, which has been discussed on technical as well as political level in 2015. The discussions also showed the need to continue iMONITRAF! beyond the current phase (2013-2016).

Monitoring update for the year 2014

Monitoring results relate to the year 2014. The number of light vehicles crossing the five iMONITRAF! corridors decreased by 0.65% from 2013 to 2014. In the same period, the number of heavy vehicles increased by 0.60%. The traffic volumes on the road distribute unequally on the corridors: in 2014, 41% of the vehicles crossed the Brenner, 27% the Gotthard, 18% the Tarvisio and about 14% the Italian-French corridors (Mont Blanc and Fréjus). In comparison to 2013, the modal shift for freight transport increased on the Gotthard (+1%), whereas it decreased on the Brenner (-1%). Air pollution concentrations showed declining trends for NO_2 and PM10 mainly due to special meteorological circumstances and also due to growing shares of the latest Euro classes, which are characterized by lower emissions per vehicle-km for all vehicle categories. However, NO_2 emissions were still above the limit values at the Gotthard and the Brenner. Toll prices for road transport remained unchanged along the Gotthard, while they slightly increased along the other four corridors, with highest rates for Fréjus and Mont Blanc. Fuel prices (diesel, petrol) continued their decrease – started in 2013 – also in 2014. All indicators are available for the period 2005-2014.

Best Practices –Strong focus on modal shift policy

Similar to developments in the previous year, 2015 did not bring along major new developments. However, the existing modal shift policy mix was re-confirmed and strengthened in most of the regions as well as on national level. In both Tyrol (regional level) and Switzerland (national level), overall policy packages were reviewed in 2015 and adjustments of existing measures were agreed. Other interesting Best Practices relate to infrastructure development, cross-financing as well as cooperation agreements. Also, 2015 several developments in the field of passenger transport were reported.

For the Brenner corridor, the revision of the overall policy package “IG Luft” in 2015 is the crucial development: it adjusts driving bans and fixes a timetable for re-implementing the sectoral driving ban in 2016. With a joint ministerial declaration (“Brenner memorandum”), the regions along the Brenner corridor strengthen their cooperation and work towards a common modal shift policy. In Switzerland, the modal shift policy was also reviewed in the frame of the report on modal shift and adjustments to the Swiss HGV fee as well as the subsidies for combined transport are agreed for 2017. Also, some crucial elements for rail infrastructure management were agreed in the revised law on freight transport. An efficient use of new base tunnel capaci-

ties will be important to realize the full benefits of the new infrastructures. Along the French-Italian corridors, there were no major new developments but in 2015 the construction of the Lyon-Turin base tunnel was finally been agreed and construction work was launched.

The transport policy framework – developments on EU level

On EU level, some important milestones were agreed in 2015. In the frame of the Connection Europe Facility (CEF), first projects were approved: as foreseen by the CEF programme priority-setting, the vast majority of recommended funding is concentrated on the Core Network Corridors. The two main base tunnels through the Alps were allocated respectively 1,18 billion € for the Brenner base tunnel and 0,81 billion € for Mont Cenis Base tunnel. In addition, further steps to improve **competition in domestic rail services** were agreed. Regarding **gigaliners in cross-border transport,** the EU Transport Council confirmed the earlier proposition that the current legislation shall be maintained and that gigaliners shall not be allowed to operate across borders. As important topic for iMONITRAF, the **revision of the Eurovignette Directive** was launched in 2015 in the frame of the "EU Road Transport Package".

Toll Plus as major focus of the iMONITRAF! network in 2015

Discussions in previous years had highlighted the importance of further developing a regional Toll Plus proposal. The design of a Toll Plus System as common instrument was thus a major focus of discussions in the frame of iMONITRAF! in 2015. Based on a first discussion paper, an in-depth analysis was conducted in 2015 which strengthens the knowledge base regarding design, impacts as well as legal considerations related to Toll Plus. As result of the in-depth analysis, an optimised scenario was developed which sees Toll Plus as an internalisation instrument and as a mechanism to harmonise toll levels across the Alpine corridors. A proposal for implementation steps shows the close interlinkage of Toll Plus with the European framework of the Eurovignette Directive as well as the Swiss legislation. The in-depth analysis offers the basis for further discussing a regional Toll Plus proposal on political level. iMONITRAF! partners agreed to further develop the regional Toll Plus proposal in the frame of a political resolution/agreement. Such a political document could be signed by political representatives during the next political roundtable and Transport Forum foreseen for autumn 2016 in Central Switzerland.

iMONITRAF! Anniversary and future of the network

In 2015, iMONITRAF! partners celebrated the 10th anniversary of the network: launched in 2005 as project MONITRAF in the frame of the Alpine Space Programme, the network has established itself as major knowledge hub on transalpine transport issues and is recognized on European and national level. During the political roundtable in Bolzano in November 2015, political representatives of the iMONITRAF! regions confirmed their support for the network and called for a continuation of the cooperation.

During the last two years, it was discussed if and how iMONITRAF! can be merged with the EUSALP framework. But the event in Bolzano made clear that iMONITRAF! should stay an independent network, at least in the short-term as long as the EUSALP framework and its activities become more transparent. It will thus be an important task for 2016, to find an agreement to continue the cooperation and to establish an efficient cooperation with the relevant EUSALP action group.

iMONITRAF! Aktivitäten im Jahr 2015 – Das Wichtigste in Kürze

iMONITRAF! – konkrete Vorschläge für gemeinsame Maßnahmen

Die Verbesserung der Umweltqualität bleibt für die Alpenregionen weiterhin eine gemeinsame Herausforderung. Grenzwerte für Luftschadstoffe werden an vielen Messstellen weiterhin überschritten und die Verkehrsverlagerung von der Straße auf die Schiene stagniert, mit Ausnahme des Gotthard Korridors. Daher haben die Regionen Auvergne Rhône-Alpes, die autonome Provinz Bozen-Südtirol, die autonome Region Aosta Tal, Piemont, Friaul Julisch Venetien, die Provinz Trient, der Kanton Tessin, die Zentralschweiz und das Bundesland Tirol gemeinsam mit der Europäischen Akademie Bozen (EURAC) ihre Zusammenarbeit im Jahr 2015 erfolgreich fortgesetzt um die bestehenden Vorschläge für gemeinsame Maßnahmen weiter zu konkretisieren. Insbesondere erarbeiteten die Partner des iMONITRAF! Netzwerks einen Vorschlag für ein Toll Plus System aus regionaler Sicht, der im Verlauf des Jahres 2015 sowohl auf technischer als auch politischer Ebene diskutiert wurde. Die Diskussionen rund um Toll Plus zeigten auch auf, dass die iMONITRAF!-Kooperation über die bestehende Vereinbarung (2013-2016) hinaus weiterzuführen ist.

Monitoringergebnisse 2014

Die Monitoringergebnisse decken inzwischen bereits die 10-jährige Spanne von 2005 bis 2014 ab. Die jüngste Entwicklung zeigt: Die Zahl der Personenfahrzeuge auf den fünf iMONITRAF! Korridoren ging zwischen 2013 und 2014 um 0,65% zurück. Zeitgleich stieg die Zahl der schweren Güterfahrzeuge um 0,6%. Das Verkehrsvolumen verteilte sich dabei 2014 weiterhin ungleich auf den Korridoren: Während 41% der Fahrzeuge den Brenner wählten, waren es 27% entlang des Gotthard-Korridors, 18% entlang des Tarvisio und 14% auf den französisch-italienischen Korridoren (Mont Blanc und Fréjus). Im Vergleich zum Vorjahr stieg der Modal-Split Anteil des Güterverkehrs auf der Schiene am Gotthard um 1%, während er am Brenner um 1% sank. Die Konzentration der Luftschadstoffe verzeichnete einen Rückgang sowohl für die NO_2 als auch die PM10-Werte. Dies ist insbesondere auf spezielle meteorologische Gegebenheiten im Jahr 2014 zurückzuführen sowie auf den steigenden Anteil der neuen Euroklassen an der Fahrzeugflotte, die bei allen Fahrzeugkategorien geringere Luftschadstoffe emittieren. Die Mautgebühren blieben am Gotthard im Jahr 2014 gleich, während an allen anderen Korridoren ein leichter Anstieg zu verzeichnen war. Die höchsten Gebühren fallen noch immer am Mont Blanc und Fréjus an. Die Kraftstoffpreise, sowohl für Diesel als auch für Benzin, sanken im Jahr 2014 weiter deutlich und setzten somit den Trend des Vorjahrs fort. Alle Indikatoren sind nicht nur 2013/2014, sondern für die gesamte Periode 2005-2014 verfügbar.

Best Practices –Schwerpunkt bei den Verlagerungsmaßnahmen

Ähnlich wie im Vorjahr gab es im Jahr 2015 keine großen Veränderungen bei den regionalen Maßnahmen. Jedoch wurde der bestehende Instrumentenmix in fast allen Regionen sowie teilweise auf nationaler Ebene bekräftigt oder sogar verstärkt. Sowohl im Tirol (regionale Ebene) als auch in der Schweiz (nationale Ebene), wurden die gesamten Maßnahmen- und Instrumentenprogramme evaluiert und Anpassungen vereinbart. Weitere Best Practices beziehen sich auf die Entwicklung der großen Infrastrukturvorhaben, der Maßnahmen zur Querfinanzierung sowie auf verbesserte Kooperationen. Zudem wurde für 2015 eine Reihe von Maßnahmen im Personenverkehr von den Partnern gesammelt und ausgewertet.

Am Brenner-Korridor wurde das Maßnahmenpaket IG Luft in 2015 überarbeitet, wonach die Fahrverbote für alte Euroklassen verschärft und ein Fahrplan für die Wiedereinführung des

sektoralen Fahrverbots für 2016 festgelegt werden. Mit einer gemeinsamen Deklaration („Brenner Memorandum“) stärken die Regionen entlang des Brenners zudem ihre Kooperation und legen Stoßrichtungen einer gemeinsamen Verlagerungspolitik fest. In der Schweiz wurde die Verlagerungspolitik ebenfalls evaluiert. Gemäß „Verlagerungsbericht“ sollen 2017 sowohl die leistungsabhängige Schwerverkehrsabgabe als auch die Vergütungen im kombinierten Verkehr erhöht werden. Zudem wurden zentrale Elemente des Schieneninfrastruktur Managements im revidierten Güterverkehrsgesetzt festgelegt, um eine effiziente Nutzung der neuen NEAT-Kapazitäten zu gewährleisten. Im französisch-italienischen Teil des iMONITRAF!-Gebiets wurde 2015 mit den Bauarbeiten für den Lyon-Turin Basistunnel begonnen.

Der verkehrspolitische Rahmen – Entwicklungen auf der europäischen Ebene

Auf europäischer Ebene wurden 2015 einige Meilensteine festgelegt. Im Rahmen der Connecting Europe Facility (CEF) wurde die Finanzierung erster Projekte genehmigt: Wie bereits in den Prioritäten für die CEF festgelegt, konzentriert sich danach der Großteil der Förderung entlang der Korridore des Kernnetzwerks: Die beiden alpenquerenden Basistunnel erhalten danach eine Finanzierung von 1,18 Mrd. Euro für den Brenner und 0,81 Mrd. Euro für den Mont Cenis Tunnel. Zusätzlich wurden weitere Schritte zur Stärkung des Wettbewerbs im Schienenverkehr festgelegt. Zur noch offenen Frage, ob Gigaliner im grenzüberschreitenden Verkehr zugelassen werden sollen, hat der Rat der EU-Verkehrsminister den früheren Vorschlag bestätigt, wonach für Gigaliner der status quo fortgesetzt werden solle. Das heißt, dass diese weiterhin im grenzüberschreitenden Verkehr nicht zugelassen werden. Schließlich wurde 2015 – für iMONITRAF! besonders wichtig – die Revision der Wegekosten-Richtlinie begonnen, welche im Rahmen des „EU Road Transport Package“ überarbeitet wird.

Toll Plus als wichtiger Fokus des iMONITRAF! Netzwerks im Jahr 2015

Diskussionen im Vorjahr hatten deutlich gemacht, dass der regionale Vorschlag für ein Toll Plus System weiter konkretisiert werden müsse. Die Ausgestaltung von Vorschlägen für ein Toll Plus System als gemeinsame Maßnahme stellten daher den Fokus der Arbeiten und Diskussionen im Jahr 2015 dar. Auf Basis eines Input-Papiers fürs Transport Forum 2014 wurde nun eine Vertiefungsstudie durchgeführt, die Informationen zu Design, Auswirkungen und rechtlichen Rahmenbedingungen lieferte. Als Ergebnis der Vertiefungsstudie wurde ein optimiertes Szenario entwickelt, in dem Toll Plus als Internalisierungsinstrument ausgestaltet wird und gleichzeitig zur Harmonisierung der Gebühren an den iMONITRAF! Korridoren beiträgt. Der Vorschlag zur Implementierung macht die enge Verbindung mit der EU Wegekosten-Richtlinie sowie der Schweizer Gesetzgebung deutlich. Die Vertiefungsstudie liefert nun eine Grundlage für weitere politische Diskussionen. Die Partner des iMONITRAF! Netzwerkes haben bereits festgelegt, dass der regionale Vorschlag zu Toll Plus zu einem politischen Dokument weiterentwickelt werden soll. Ein solches Dokument könnte im Herbst 2016 während des nächsten politischen Roundtable der iMONITRAF!-Regionen unterzeichnet werden.

iMONITRAF! Jubiläum und Zukunft des Netzwerks

Im Jahr 2015 feierten die iMONITRAF! Partner zudem das zehnjährige Bestehen des Netzwerks, das als Projekt „MONITRAF“ im Jahr 2005 im Rahmen des Alpine Space Programmes initiiert worden war. Seitdem hat sich das Netzwerk als Wissenspool für Themen des alpenquerenden Verkehrs etabliert und ist sowohl auf nationaler als auch europäischer Ebene ein anerkannter Partner. Während des politischen Roundtable in Bozen im November 2015 bekräftigten

die anwesenden politischen Vertreter ihre Unterstützung für das Netzwerk und sprachen sich auch für eine Fortsetzung der Kooperation nach 2016 aus.

Während der letzten beiden Jahre wurde intensiv diskutiert, ob und wie iMONITRAF! mit dem neuen Rahmen der makroregionalen Strategie EUSALP verknüpft werden kann. Der Roundtable in Bozen machte deutlich, dass iMONITRAF! vorerst als unabhängige Instanz beibehalten werden soll, zumindest kurzfristig bis sich die EUSALP-Organisation weiter geklärt hat. In 2016 wird es somit darum gehen, eine Vereinbarung für die Fortführung der Kooperation sowie eine effiziente Form der Vernetzung mit der relevanten EUSALP Action Group zu finden.

iMONITRAF! en 2015 – Résumé

iMONITRAF ! – des propositions spécifiques pour des mesures communes

Une attitude proactive des Régions alpines demeure indispensable pour améliorer la situation environnementale le long des corridors transalpins. Les limites en matière de qualité de l'air sont dépassées sur de nombreux sites, et globalement, le transfert modal de la route vers le rail est en stagnation, à l'exception du Gotthard. Pour autant, les Régions Rhône-Alpes, Vallée d'Aoste, Frioul-Vénétie-Julienne, Piémont et les Provinces autonomes de Bolzano et de Trento, les Cantons du Tessin et de Suisse Centrale, le Lande du Tyrol ainsi que l'Académie européenne de Bolzano (EURAC), ont poursuivi en 2015 leur coopération en apportant des contributions supplémentaires à leur stratégie commune en matière de transport. Elles ont notamment établi un rapport approfondi sur un mécanisme de « surpéage » - proposé par iMONITRAF ! – prenant en compte le point de vue des régions. Ce rapport a fait l'objet d'échanges aux niveaux technique et politique au cours de l'année 2015. Les discussions ont aussi conclues à la poursuite d'iMONITTRAF au-delà de la période actuelle (2013-2016).

Mise à jour de l'Observatoire – données 2014

Les données présentées se rapportent à l'année 2014. Le nombre de véhicules légers ayant circulé sur les cinq corridors transalpins iMONITRAF ! a dimiuné de 0,65% entre 2013 et 2014. Sur la même période, le nombre de véhicules lourds a également diminué, de 0,60%. Le trafic routier reste marqué par une répartition inégale entre les corridors : en 2014, le Brenner concentre 44% des flux, le Gotthard 27%, le Tarvisio 18% et environ 14% pour les corridors franco-italiens (Mont Blanc et Fréjus). Par rapport à 2013, la part modale du ferroviaire pour le fret a augmenté au Gotthard (+1%) et diminué au Brenner (-1%). Les concentrations en polluants atmosphériques montrent une tendance à la baisse pour les NO_2 et PM10, essentiellement en raison d'une conjoncture météorologique particulière, et aussi grâce à la progression des classes EURO les plus récentes, caractérisées pour toutes les catégories de véhicules par des émissions plus faibles (en véh.km). Au Gotthard et au Brenner les émissions de NO2 demeurent cependant supérieures à la limite. Le montant des péages routiers est resté stable pour le Gotthard, et a légèrement augmenté pour les quatre autres corridors, le Fréjus et le Mont Blanc étant les plus chers. Enfin, le prix des carburants (diesel et essence) a poursuivi sa baisse, débutée en 2013. L'ensemble des données sont disponibles sur la période 2005-2014.

Bonnes pratiques –la politique de transfert modal comme thème central

Comme l'année précédente, il n'y a pas eu d'évolution majeure en matière de bonnes pratiques en 2015. Toutefois, la plupart des régions ainsi que les Etats ont réaffirmé leur volonté d'une

politique de transfert modal et renforcé les mesures en ce sens. Au Tyrol (échelon régional) et en Suisse (niveau national), plusieurs ensembles de lois ont été réexaminées en 2015 et les mesures existantes ont été ajustées. On note des exemples de bonnes pratiques en matière de développement des infrastructures, de cofinancements et d'accords de coopération. 2015 s'est aussi illustrée par des innovations en matière de transport de voyageurs.

Concernant le Brenner, la révision de la politique globale « IG luft » constitue un évènement majeur: les interdictions de circuler ont été ajustées et un nouveau calendrier est fixé en vue de rétablir en 2016 les interdictions de circuler sectorielles. La Suisse a également révisé sa politique de transfert modal dans le cadre du Rapport sur le transfert modal et de l'évolution des redevances sur les poids lourds ; il est de plus prévu de mieux subventionner le transport combiné en 2017. Des évolutions importantes en matière de gestion des infrastructures ferroviaires ont été engagées dans le cadre de la révision de la Loi sur le fret. L'utilisation efficace des nouvelles capacités des tunnels de base est essentielle pour révéler tout leur potentiel. Les corridors franco-italiens n'ont pour leur part pas connu d'évolution significative mais l'année 2015 fut marquante pour le Lyon-Turin avec un accord sur la construction du tunnel de base et le lancement des travaux.

Politique de transport - évolutions à l'échelle européenne

Au niveau de l'Union européenne, 2015 est une année importante. Les premiers projets candidats au Mécanisme d'Interconnexion Européen (MIE) ont été approuvés, avec une forte concentration des financements sur les corridors majeurs, conformément aux priorités affichées par l'Union européenne. Ceci représente, pour les deux principales traversées transalpines, 1,18 Mds € de financement européen pour le tunnel de base du Brenner, et 0,81 Mds € pour le tunnel de base du Lyon-Turin (Mont Cenis). Par ailleurs, on enregistre un renforcement de la mise en concurrence des services ferroviaires domestiques. En ce qui concerne les « gigaliners » (poids-lourds ultra longs), la Commission Transport de l'UE demeure sur sa position et a confirmé la législation existante qui interdit la circulation transfrontalière des « gigaliners ».

Le « surpéage » : projet phare du réseau iMONITRAF en 2015

Les années précédentes, il était apparu qu'une proposition en matière de surpéage à l'échelle régionale était particulièrement importante. La manière de concevoir un système de surpéage en tant qu'outil commun a été au cœur des échanges du réseau iMONITRAF en 2015. Sur la base d'une première synthèse, une analyse détaillée a été conduite pour parfaire les connaissances sur le fonctionnement, l'impact et l'environnement juridique du surpéage. Cette analyse a permis de dessiner un scénario optimisé où le surpéage serait un instrument d'intégration et d'harmonisation du montant des péages entre les différents corridors alpins. Il est proposé une mise en œuvre par étapes, sur la base d'une corrélation étroite entre la proposition d'un surpéage régional, le cadre européen de l'Eurovignette et la législation suisse. Cette proposition constitue un premier pas pour aller plus avant dans les discussions politiques. Les partenaires du réseau iMONITRAF souhaitent porter la proposition d'un surpéage régional à travers une résolution/accord. Un tel document politique pourrait être signé lors d'une prochaine table-ronde et à l'occasion du Forum Transport qui se tiendra en autumne en Suisse centrale.

10ème anniversaire d'iMONITRAF et l'avenir du réseau

En 2015, les partenaires ont célébré le 10ème anniversaire du réseau. Lancé en 2005 dans le cadre du programme Espace alpin, le projet MONITRAF a permis l'émergence d'un réseau qui constitue un espace de réflexion reconnu en matière de transport transalpin, au niveau national

comme européen. Lors de la table-ronde politique à Bolzano en 2015, les partenaires ont confirmé leur soutien au réseau et leur volonté de poursuivre la coopération.

Depuis deux ans, se pose la question d'une fusion entre iMONITRAF et la Stratégie de l'Union européenne pour la région alpine (SUERA). La manifestation à Bolzano a montré tout l'intérêt de maintenir un réseau autonome, du moins dans un avenir proche et dans l'attente d'une plus grande visibilité sur les activités de la SUERA. L'année 2016 doit permettre un accord pour poursuivre la coopération au sein d'iMONITRAF et favoriser les synergies avec le groupe de travail de la SUERA.

iMONITRAF! nel 2015: L'essenziale in breve

iMONITRAF! proposte specifiche per comuni provvedimenti

Le regioni alpine affrontano ancora un elevato bisogno di azioni per migliorare le situazione ambientale lungo i corridori di transito. I limiti di qualità dell'aria sono ancora superati in molte aree ed il trasferimento modale dalla strada alla rotaia è ancora stagnante ad eccezione lungo il corridoio del Gottardo. Per questo, la regione Rhône-Alpes, le Province autonome di Trento e di Bolzano, le Regioni autonome della valle di Aosta e del Friuli Venezia Giulia, la Regione Piemonte, il Canton Ticino, la Svizzera Centrale, il Tirolo come anche l'Accademia Europea di Bolzano (EURAC) hanno continuato con successo la loro cooperazione durante l'anno 2015 per pruomovere specifici elementi della loro comune strategia dei trasporti. In particolare è stata documentata, in una relazione approfondita, la proposta – sviluppata da iMONITRAF! – per un sistema di pedaggio aggiuntivo Toll Plus da un punto di vista delle regioni, proposta che nel 2015 è stata discussa a livello tecnico come anche a livello politico. La discussione ha anche mostrato che è necessario continuare con iMONITRAF! anche oltre la corrente fase (2013-2016).

Aggiornamento dei monitoraggi per l'anno 2014

I risultati dei monitoraggi sono riferiti all'anno 2014. Il numero dei veicoli leggeri in attraversamento lungo i cinque corridoi di iMONITRAF! è diminuito del 0,65% dal 2013 al 2014. Nello stesso periodo, il numero dei veicoli pesanti è aumentato del 0,60%. Il volume di traffico stradale è distribuito in modo non uniforme sui corridoi: nel 2014 il 41% dei veicoli ha attraversato il Brennero, il 27% il Gottardo, il 18% Tarvisio e circa il 14% i corridoi italo-francesi (Monte Bianco e Fréjus). In confronto con il 2013 il trasferimento modale per il trasporto merci è aumentato sul Gottardo (+1%), mentre è diminuito sul Brennero (-1%). Le concentrazioni di inquinamento dell'aria mostrano delle tendenze decrescenti per il NO_2 e le PM10 in gran parte dovute alle particolari circostanze meteorologiche ed anche alla crescente diffusione delle più recenti classi Euro, che sono caratterizzate da più basse emissioni in veicolo-km per tutte le categorie di veicolo. Tuttavia le emissioni di NO_2 sono state ancora sopra i valori limite al Gottardo e al Brennero. I prezzi dei pedaggi per il trasporto su strada sono rimasti invariati lungo il Gottardo mentre sono aumentati leggermente lungo gli altri quattro corridoi, con le quote più alte per il Fréjus e il Monte Bianco. Il prezzo dei carburanti (diesel e benzina) hanno continuato anche nel 2014 la loro diminuzione già incominciata nel 2013. Sono disponibili tutti gli indicatori per il periodo 2005-2014.

Best Practices (le migliori pratiche) - Forte concentrazione sulla politica di trasferimento modale

In modo simile alla evoluzione del precedente anno, il 2015 non ha portato con se nuovi sviluppi. Comunque l'esistente mix di politica per il trasferimento modale è stata riconfermata e rinforzata nella maggior parte delle regioni come anche a livello nazionale. Sia in Tirolo (a livello regionale) che in Svizzera (a livello nazionale) sono stati rivisitati i pacchetti di politica generale e sono stati raggiunti accordi su adattamenti di esistenti provvedimenti. Altre interessanti Best Practices sono quelle relative allo sviluppo delle infrastrutture, ai finanziamenti incrociati e anche agli accordi di cooperazione. Inoltre nel 2015 sono stati rilevati numerosi sviluppi nel settore del trasporto passeggeri.

Per il corridoio del Brennero, lo sviluppo cruciale è la revisione del pacchetto di politica generale "IG Luft" (IG aria): vengono adeguati i divieti di circolazione e viene stabilito un programma temporale per la reintroduzione del divieto settoriale di circolazione nel 2016. Con una dichiarazione ministeriale congiunta ("Brenner memorandum"), le regioni-province lungo il corridoio del Brennero hanno rinforzato la loro cooperazione ed il loro impegno verso una comune politica di trasferimento modale. Anche in Svizzera è stata rivisitata la politica di trasferimento modale nella forma della relazione sul trasferimento modale e sugli adeguamenti alla tassa svizzera sui mezzi pesanti (HGV fee), come anche sono stati concordati i contributi per il trasporto combinato. Inoltre sono stati concordati alcuni elementi cruciali per la gestione delle infrastrutture ferroviarie all'interno della riveduta legge per il trasporto merci. Sarà importante l'efficiente utilizzo delle capacità del nuovo tunnel di base, per ottenere il massimo beneficio dalla nuove infrastrutture. Lungo i corridoi italo-francesi non ci sono stati maggiori nuovi sviluppi tranne che nel 2015 è stata finalmente concordata la costruzione del tunnel di base Lyon-Torino e che i lavori sono stati avviati.

La struttura politica del trasporto – sviluppi a livello europeo

A livello europeo, alcune pietre miliari sono state concordate nel 2015. All'interno della struttura del Connection Europe Facility (CEF), sono stati approvati i primi progetti: come previsto dal programma CEF che stabilisce le priorità, la grande maggioranza dei finanziamenti consigliati è concentrata nei corridoi della rete centrale. Ai due principali tunnel di base attraverso le Alpi sono stati assegnati rispettivamente 1,18 bilioni di euro al tunnel di base del Brennero e 0,81 bilioni di euro al tunnel di base di Monte Ceneri. In aggiunta sono stati concordati ulteriori passi per migliorare la competitività dei servizi della ferrovie locali. In merito ai gigaliners (mezzi pesanti da 60 tonnellate) nel trasporto trans-frontaliero, il Consiglio europeo per i trasporti ha confermato la precedente proposta di mantenere l'attuale legislazione e che ai gigaliners non verrà consentito di operare attraverso i confini. Come importante argomento per iMONITRAF!, è stata avviata nel 2015 la revisione della Direttiva Eurovignette all'interno del quadro "Pacchetto europeo dei trasporti stradali".

Toll Plus come maggiore attenzione del network iMONITRAF! per il 2015

Le discussioni dei precedenti anni avevano evidenziato l'importanza di sviluppare ulteriormente una proposta di Toll Plus a livello regionale. Il progetto di un sistema Toll Plus come comune strumento è stata perciò per il 2015 un principale accentramento di discussione nella struttura iMONITRAF!. Basato su un primo documento di discussione, nel 2015 è stata condotta una analisi approfondita che rinforza la conoscenza di base in merito al progetto, agli impatti ed anche alle considerazioni legali relative al Toll Plus. Come risultato della analisi approfondita, è stato sviluppato uno scenario ottimizzato che vede il Toll Plus come uno strumento di internalizzazione e come un meccanismo per armonizzare i livelli di pedaggio attraverso i corridoi alpini.

Una proposta per il percorso di implementazione mostra una stretta interconnessione del Toll Plus con la struttura europea della Direttiva Eurovignette ed anche con la legislazione della Svizzera. L'analisi approfondita offre le basi per discutere ulteriormente una proposta regionale del Toll Plus al livello politico. I partecipanti di iMONITRAF! sono d'accordo per sviluppare ulteriormente la proposta di un Toll Plus regionale nella forma di una risoluzione/accordo politico. Un tale documento politico potrebbe essere firmato dai rappresentanti politici durante la prossima tavola rotonda ed il Transport Forum previsto per l'autunno 2016 in Svizzera Centrale.

Anniversario di iMONITRAF! e futuro del network

Nel 2015 i partecipanti di iMONITRAF! festeggeranno il 10° anniversario del network: avviato nel 2005 come progetto MONITRAF nel quadro del Programma Spazio Alpino, il network si è instaurato come il principale riferimento sui temi dei trasporti transalpini ed è riconosciuto a livello europeo e nazionale. Durante la tavola rotonda di Bolzano nel novembre 2015, i rappresentanti politici delle regioni iMONITRAF! hanno confermato il loro sostegno al network ed hanno sollecitato la continuazione della cooperazione. Durante gli ultimi due anni è stato discusso se e come iMONITRAF! possa confluire nella struttura di EUSALP. Tuttavia l'evento a Bolzano ha chiarito che iMONITRAF! dovrebbe rimanere un network indipendente, almeno a breve termine fino a quando la strategia EUSALP e le sue attività diventeranno più trasparenti. Sarà perciò un importante compito per il 2016 trovare un accordo per continuare la cooperazione e per instaurare una efficiente cooperazione con il rilevante gruppo di azione EUSALP.

1 Background and objectives

iMONITRAF! network – 10 years of successful cooperation

For the last ten years, the Alpine regions Rhône-Alpes,[1] the autonomous Provinces of Bolzano and Trento, the autonomous Regions of Aosta Valley and Friuli-Venezia Giulia, the Region Piemonte, the Canton of Ticino, the Region Central Switzerland, the Land of Tyrol as well as the Accademia Europea di Bolzano (EURAC) have established a successful cooperation on transalpine transport topics. As all Alpine regions face considerable negative environmental and social impacts from transalpine transport, they have launched the Alpine Space project MONITRAF in 2005 to develop a common knowledge base on transalpine transport with the help of a monitoring system as well as common measures. Regular meetings, public workshops and international conferences served for the communication with regional, national and EU bodies involved with the issue. During eight years, MONITRAF had established itself as important institution on transalpine transport knowledge and enjoys high support on political level.

Since 2013, the iMONITRAF! network entered an independent phase with the establishment of a Coordination Point financed by the regions. The Coordination Point continues the activities of the previous projects and has the objective to implement first elements of the transport strategy of the Alpine regions as signed in May 2012 in Lyon. Specifically, the Coordination Point focuses on three activities: i) continue the common monitoring system, ii) move forward on the implementation of common measures and continue the exchange on regional best practice, and iii) networking and coordination with other bodies and institutions on regional, national and European level.

Objectives for 2015 – Moving forward on Toll Plus and securing the knowledge base

Starting with the Transport Forum in 2014, iMONITRAF! has focused strongly on developing a regional proposal for a Toll Plus system. The implementation of a common modal shift policy, supported by an ambitious pricing approach is part of the iMONITRAF! strategy of 2012 and can be considered as bridge between rather short-term regulatory measures and the long-term perspective of an Alpine Crossing Exchange. With parallel activities in the Suivi de Zurich process and especially with the ongoing revision process of the Eurovignette Directive, there is an adequate window of opportunity for iMONITRAF! to further develop an ambitious pricing system for the Alpine corridors. Based on the first discussion paper which has been developed for the Transport Forum in 2014, iMONITRAF! partners have now prepared an in-depth analysis on Toll Plus with specific proposals for an optimised scenario. This analysis will be highlighted in several chapters of this Annual Report.

2015 was also a crucial year for securing the future of iMONITRAF! beyond the Coordination Point agreement which lasts until the end of 2016. As the framework of the macroregional strategy EUSALP is still not fully developed, political representatives of most of the iMONITRAF! regions have stated a preference on continuing iMONITRAF! as an independent institution. Details need to be discussed in the upcoming months. However, the regions along the Brenner

[1] Please note that the region Rhône-Alpes has been merged with the region Auvergne during the regional reorganization of France in 2015. There was a broad consensus that the existing regional councils are not sufficiently large or powerful enough to become engines for economic growth. On that purpose, on 16th of July 2015, French Parliament has approved the draft law on the New Territorial Organisation of the Republic (NOTRe), which redefines the powers of the local and regional governments regarding the country's administrative and economic policies. It finally came into force in January 2016, although the transfer of new powers to the regions will go on until 2017. The most outstanding measure is the changes to the French internal regional borders, which reduced the number of regions from 22 to 13.

corridor have already stated their willingness to continue the cooperation for at least two more years.

Annual Report 2015 – Insights and overview of iMONITRAF! activities

The Annual Report 2015 offers a tool for communicating iMONITRAF! activities to the broader network on transalpine transport policy and serves as a source of knowledge on recent developments in the Alpine regions and the relevant political frameworks.

The Annual Report 2015 includes recent results of the common monitoring activities, an update of Best Practices in the iMONITRAF! regions as well as an overview on relevant activities on national and European level. Being the focus of iMONITRAF! activities, the report also highlights elements of the regional Toll Plus proposal. In addition, it gives an overview on networking activities and illustrates elements for future agenda setting.

2 Political roundtable 2015 and other networking activities

Political roundtable in Bolzano

In addition to the public Transport Forums, iMONITRAF! has established the organisation of political roundtables as a platform for an exchange between the technical and political level and especially for a direct discussion between political representatives of the iMONTRAF! partner regions. In 2015, the political level was closely integrated in the iMONITRAF! activities. In spring, a first feedback round with political representatives took place to obtain answers on major directions for the Toll Plus proposal as well as a first feedback on the continuation of the network beyond 2016. Packed by this feedback round, the proposal on Toll Plus has been further developed and then brought to an in-depth political discussion during a political roundtable in Bolzano.

On 9th November 2015, political representatives of the regions Tyrol, South Tyrol and Trento as well as representatives of the technical level from all partner regions met in Bolzano to discuss the specific proposals for an optimised Toll Plus scenario (see chapter 5). The discussion showed that an ambitious Toll Plus system is considered as crucial element for a common modal shift policy and that all participating regions recognise the importance of sharing the regional proposal with relevant stakeholders on European and national level. Especially, they confirmed the need to define specific claims for the adjustment of the Eurovignette Directive for which the revision will enter its crucial phase at the beginning of 2016. Also, it was agreed to further develop the Toll Plus proposal on political level, if possible as a political resolution to be signed by the partner regions. Such a resolution or a similar agreement shall also include a chapter on the continuation of iMONITRAF! beyond 2016 and the willingness of the regions to further support the network as independent institution next to EUSALP.

This measure is expected to reinforce the country's regional governments, as well as their economic competences and the decision-making capacities that do not correspond to the State.

Figure 1: Picture of the political roundtable in Bolzano

Networking related to Toll Plus

Networking with other projects, institutions and stakeholders is a crucial activity of the iMONITRAF! Coordination Point. In 2015, most networking activities focused on the regional proposal on Toll Plus which needed to be shared with stakeholders on national and European level as the relevant responsibilities lie on this level. Following the political roundtable in Bolzano, the following networking activities took place:

- Suivi de Zurich process and European level: A factsheet on Toll Plus has been developed which includes specific proposals and claims for the revision of the Eurovignette Directive. This factsheet was sent to all national representatives in the Suivi de Zurich process as well as to representatives of the European Commission on different levels (from Commissioner to technical staff).
- Regional level: in addition, the proposal on Toll Plus was shared with some crucial partners along the corridors which do not participate the iMONITRAF! network.
- Other stakeholders: the factsheet on Toll Plus was also shared with further important stakeholders as the Alpine Convention, or the Alpeninitiative to gain their support for a regional proposal from iMONITRAF!.

Networking related to EUSALP and the future of iMONITRAF!

iMONITRAF! partners were closely involved in further developments and discussions around the marcoregional strategy EUSALP. Especially, the following activities need to be mentioned:

- In the beginning of 2015, iMONITRAF! prepared several inputs to the steering committee on EUSALP to ensure that iMONITRAF! topics are covered by the EUSALP framework
- When the draft strategy and action plan for EUSALP were published at the end of April, the Coordination Point as well as several partner regions provided specific feedbacks.
- The Lead Partner of iMONITRAF! participated in several events related to EUSALP, especially the public hearing of the European Economic and Social Committee (EECS) in Ispra June 25th "Together for an integrated, Innovative an Sustainable Alpine Region" (presentation of iMONITRAF! and participation in the roundtable "Connectivity for all") and the International Conference on the Macroregional Strategy for the Alps in Hagnau, Ocober 6th "Challenges for the implementation" (presentation and discussion of the iMONITRAF! experience).

- At the end of 2015, it becomes clear that the Euregion Tyrol-South Tyrol- Trento takes over the lead for action group 4 of EUSALP which deals with transport topics. Tyrol will serve as lead partner within the Euregio so that a direct link to iMONITRAF! is secured.
- After intensive discussion on technical and political level, it is agreed that iMONITRAF! will not directly be merged with EUSALP as the framework is currently not clear enough. Political support for iMONITRAF! is still very high and political representatives do not want to risk to lose the dynamic of iMONITRAF! in a finding-phase of EUSALP.
- It is thus foreseen to continue iMONITRAF! as independent network, at least in the short-term in the years 2017 and 2018. The first phase of EUSALP will also reach until the end of 2018 and it can then be discussed if and how iMONITRAF! will be merged with EUSALP.

3 Monitoring of iMONITRAF indicators

This chapter provides the main findings from the data analysis of the individual indicators, which includes road traffic volumes, the transported tons and modal split, the concentration of nitrogen dioxide and particulate matter, the exposure to noise, toll prices and prices of fuel. To identify the distinct corridors more easily, it resorts to a consistent color scale: orange=Fréjus / Mont Cenis, red = Mont Blanc, blue = Gotthard, green = Brenner, violet = Tarvisio.

Indicator "Road traffic volumes"

Figure 2 analyses the **overall annual average daily traffic for all vehicles**, which is the sum of light and heavy vehicles circulating along the five iMONITRAF! corridors in the years 2005-2014. For Fréjus, Mont Blanc and Gotthard the data represents the respective measuring stations in the corridors' tunnels. For Brenner the data series is collected at the station located between Brennero/Brenner and Vipiteno/Sterzing (IT, highway A22). Finally, for Tarvisio, the data refers to the station at Ugovizza (IT, highway A23).

With an average of 26,855 vehicles per day, the Brenner confirms the highest traffic volume, followed by the Gotthard and the Tarvisio (17,398 and 11,749 vehicles per day, respectively). Both corridors between France and Italy have lower traffic volumes (4,945 vehicles per day for the Mont Blanc and 4,347 vehicles for the Fréjus).

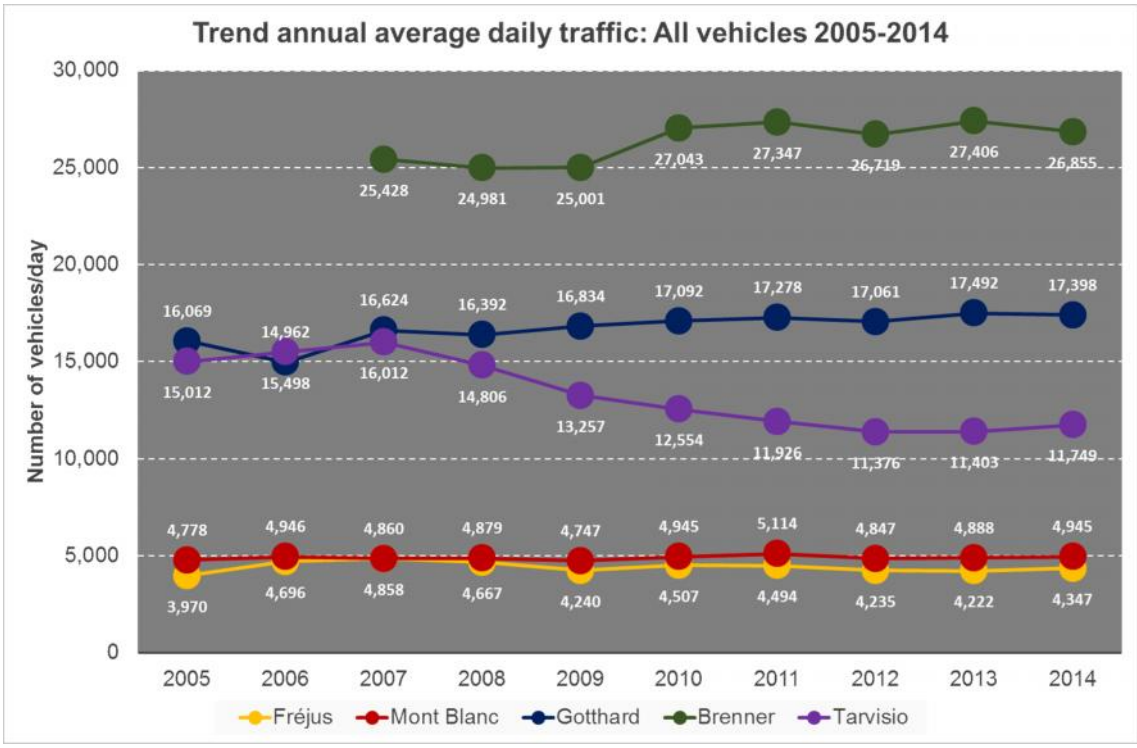

Figure 2: Annual average daily traffic: all vehicles

The analysis of the trend since 2005 shows different situations. On the one hand, the Gotthard and Brenner axes, the two corridors with the highest absolute traffic volume, showed an increase in the period 2005-2013. However, in 2014 the numbers slightly decreased: 550 vehicles per day less (-2%) at the Brenner and 94 vehicles per day less (-0.5%) at the Gotthard. On the other hand, for the year 2014 the volumes on the Mont Blanc and the Fréjus increased (+1% and +3%, respectively). Finally, the Tarvisio underwent a significant decrease between 2007 and 2012, with a subsequent increase (+3.3% between 2012 and 2014).

Figure 3 shows the **annual average daily traffic of heavy vehicles**. Note that due to different systems to classify and measure vehicle categories within the iMONITRAF! regions, heavy duty vehicles cannot be determined uniquely as a separate vehicle category. Comparable numbers can only distinguish between heavy vehicles (sum of coaches, heavy and light duty vehicles) and light vehicles (passenger cars and motorcycles). As far as the annual average daily traffic of heavy vehicles is concerned, the highest values are registered at the Brenner corridor, where in 2014 about 8,600 heavy vehicles per day were counted on average (-2% compared to 2013). The Tarvisio and the Gotthard follow with about half of the Brenner volume (about 4,000 heavy vehicles per day), and with specific trends: a decrease at the Gotthard (-0.3%), and a considerable increase at the Tarvisio (+7.3%). Finally, the volumes on the Fréjus and Mont Blanc tunnels are significantly lower with 1,826 and 1,558 heavy vehicles per day: this partly reflects the restrictive measures and the comparably high toll prices on these axes (see indicator toll prices).

A diachronic analysis identifies several phases: between 2005 and 2007, heavy vehicle flows increased in all corridors. This development is followed by a more or less pronounced decline until 2009, which proves the impact of the economic crisis. The trend 2009-2010 shows some recovery, followed by another decrease in 2010-2013, except for the Brenner and the Gotthard. In 2014, road freight traffic revealed different trend as mentioned above.

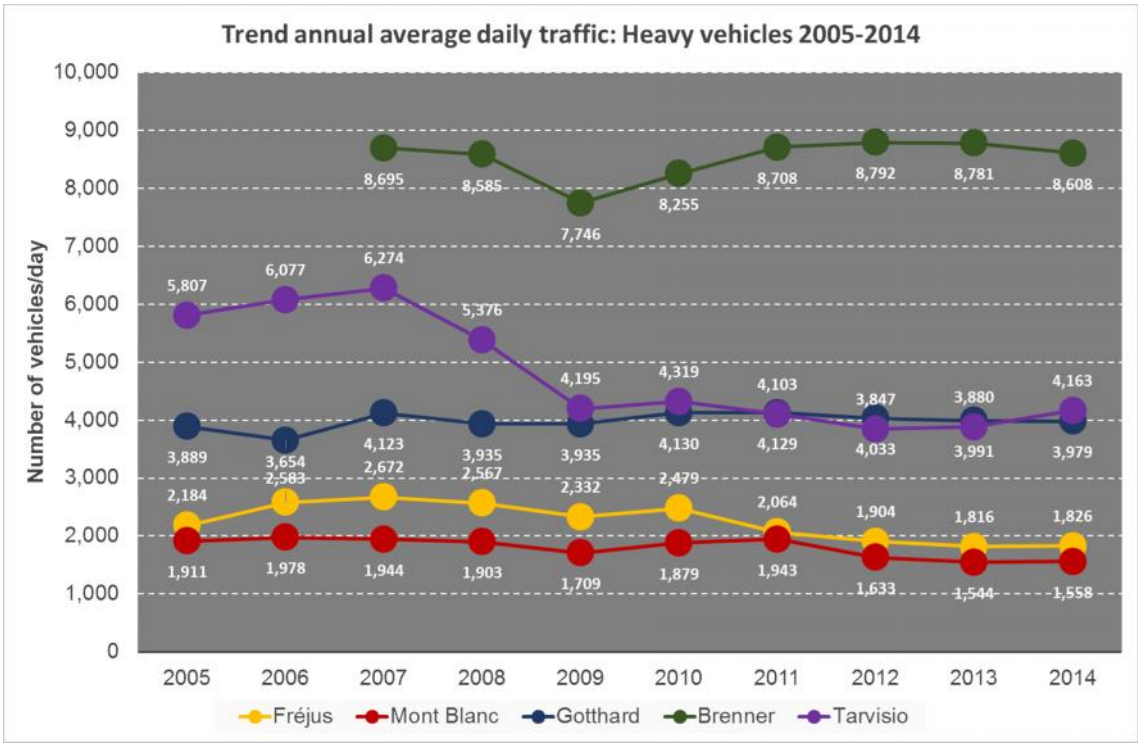

Figure 3: Annual average daily traffic: Heavy vehicles

The analysis of the **annual average daily traffic for light vehicles**[2] indicates the highest values at the Brenner, with more than 18,200 vehicles per day in 2014 (Figure 4). The Brenner is followed by the Gotthard (about 13,400 vehicles per day) and the Tarvisio (about 7,600 vehicles per day), while the measured numbers on the two corridors between France and Italy are the lowest of the iMONITRAF! corridors (about 3,400 and 2,450 for the Mont-Blanc and the Fréjus, respectively).

The analysis of the time series since the year 2005 depicts a moderate increase of light vehicle volumes until 2011 (mostly evident on the Brenner corridor), followed by a decrease in 2012 and a subsequent growth in 2013. However, such decrease, due to the economic crisis, was not so evident as for HGVs. In 2014, a stabilization of the values registered in the previous years is visible at the Gotthard, Mont-Blanc and Fréjus, while a significant decrease is identified at the Brenner. The Tarvisio is an exception, because it reveals a decreasing trend for the whole period 2007-2013, with a slight increase in 2014.

[2] „Light vehicles“ is the sum of motorcycles and passenger cars.

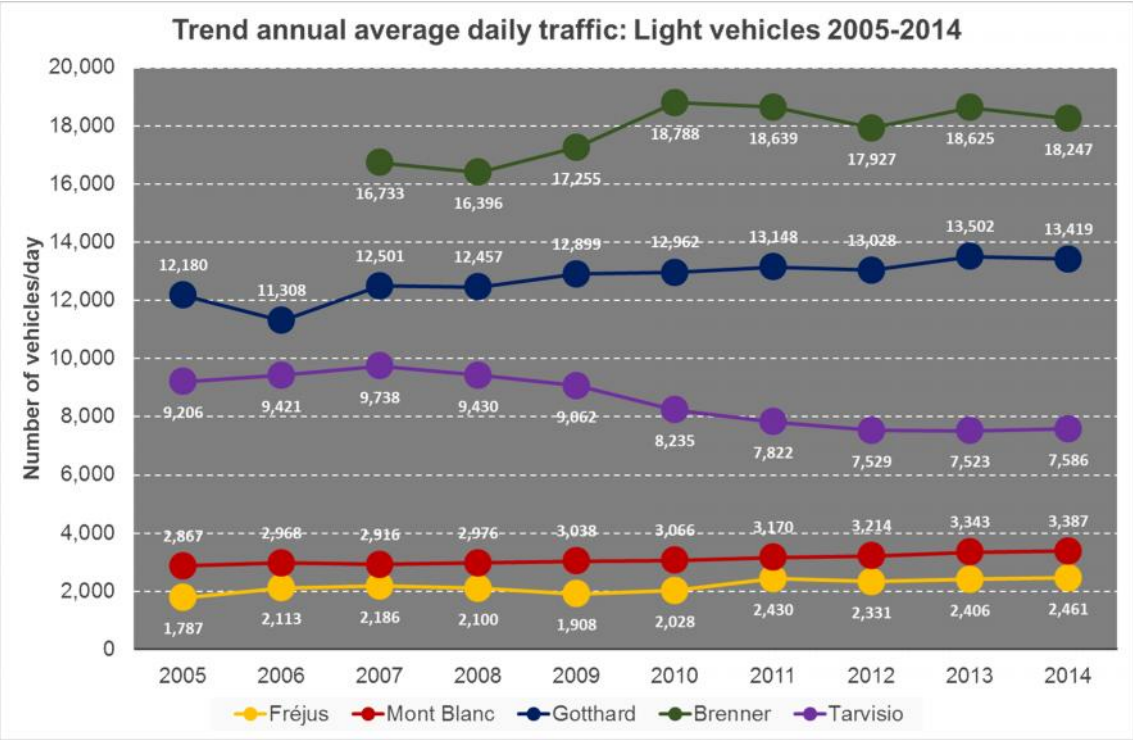

Figure 4: Annual average daily traffic: Light vehicles

Indicator "Transalpine rail traffic volumes"

The analysis of the tons transported per year is largely affected by the difficulties in finding accurate new data: even in 2014, for the Tarvisio, the Fréjus and the Mont-Blanc corridors no updated values are available. However, information is available for the Gotthard and the Brenner corridors (Figure 5). At the Brenner an increase of the overall freight volumes from 40.9 Mt to 42.6 in 2014 is detected; the increase involved particularly road transport (passing from 29.0 Mt to 30.6 Mt), while for rail transport it was less significant (from 11.9 Mt to 12.0 Mt). The relation at the Gotthard is inverse: there, the overall transported tons grew less, passing from 24.5 Mt in 2013 to 24.8 Mt in 2014. The increase is totally attributed to rail transport (15.0 Mt to 15.6 Mt), while road freights decreased from 9.5 Mt to 9.2 Mt.

Referring to the modal split (Figure 6), the Gotthard with 63% is still the corridor with the highest share of rail, constantly increasing in the period 2009-2014. On the other hand, on the Brenner corridor rail transport shows a decreasing trend since 2011 (year of the abolishment of the sectoral driving ban), ending at 28% in 2014. No data are available for the Tarvisio and the Fréjus/Mt. Cenis corridors. Mont Blanc does not have a transalpine rail connection, therefore 100% of the freight is transported through this corridor by heavy duty vehicles.

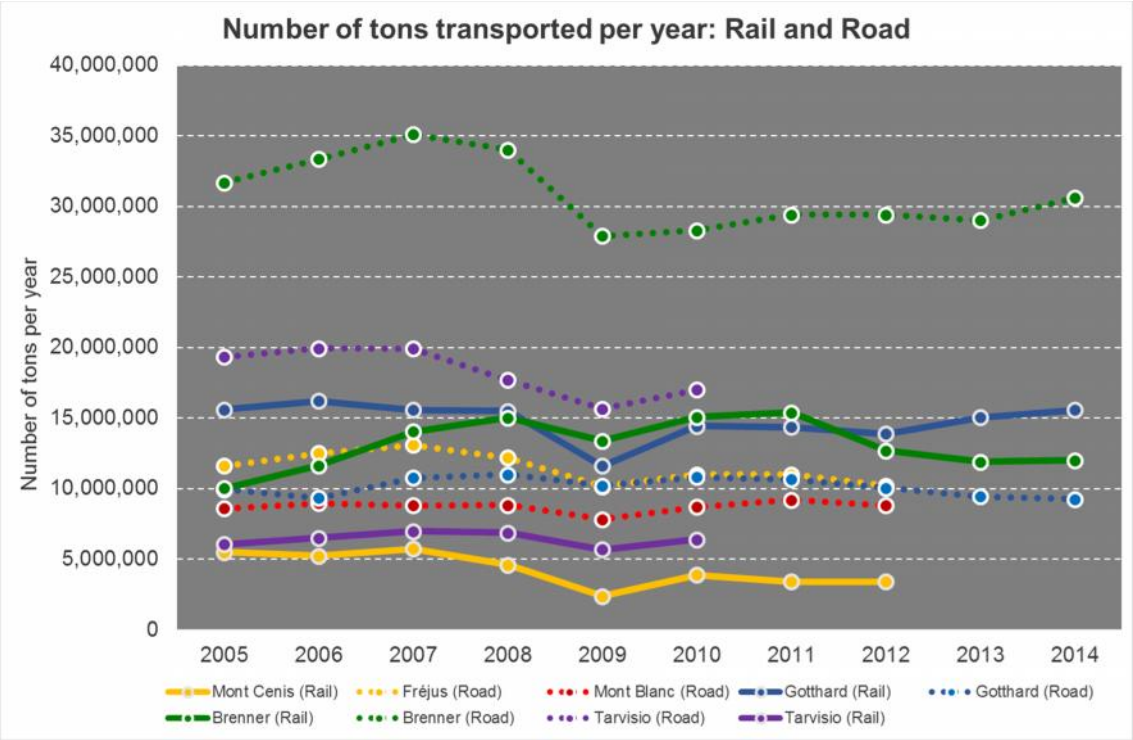

Figure 5: Transported tons, years 2005-2014 per corridor

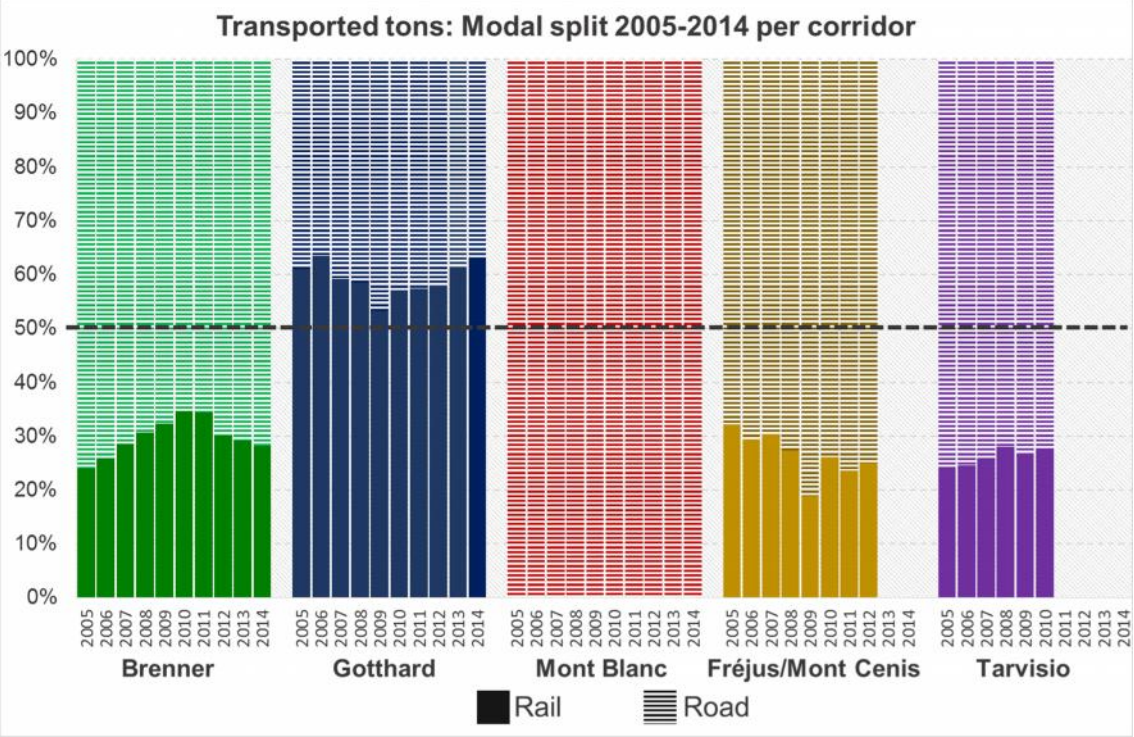

Figure 6: Transported tons: Modal split 2005-2014 per corridor

Indicator "Air pollutant concentrations measured"

Figure 7 illustrates the trend in annual average for **nitrogen dioxide (NO_2)** concentrations between 2005 and 2014 near the highways, since NO_2 is mainly related to road transport outside the settlement areas of the corridors.

The highest concentrations in 2014 are measured along the Brenner (green color scale), the Mont-Blanc (red) and the Gotthard (blue) corridors, while lower values are detected along the Fréjus and the Tarvisio corridors (respectively, yellow and violet colors). The trend 2005-2014 is mainly decreasing and is poorly correlated to the road traffic volumes (see Figures 2, 3, 4). Indeed, it is caused mainly by the growing shares of the latest Euro classes, which are characterized by lower emissions per vehicle-km. Meteorology is another important variable that explains year-to-year fluctuations not in line with the long term trend. This effect was dominant in 2014 with a warm winter and a rainy summer-season. It lead to some of the lowest immissions since 2005. In Chamonix Bossons and Vallée del Maurienne the concentration increased exceptionally between 2009 and 2012. The reason for that development has not been identified.

Despite the general reduction, the annual average values of NO_2 exceed the EU limit value of 40 µg/m^3 for all monitoring stations of the Brenner corridor (Mutters, Ora/Auer, Velturno/Feldthurns, Vomp, Avio) and for the French station of Chamonix-Bossons (Mont-Blanc). Along the Gotthard axis, the stations of Moleno, Camignolo and Erstfeld exceed the Swiss and Austrian national limit of 30 µg/m^3. The exceedances are a main driver for common measures to reduce air pollution. Values are below the EU limit only in Entreves, Vallee de la Maurienne and Tolmezzo (respectively, Mont Blanc, Fréjus and Tarvisio corridors). Finally, in 2014 data were not available for the Susa station (Fréjus corridor), which had values below the EU limit in previous years.

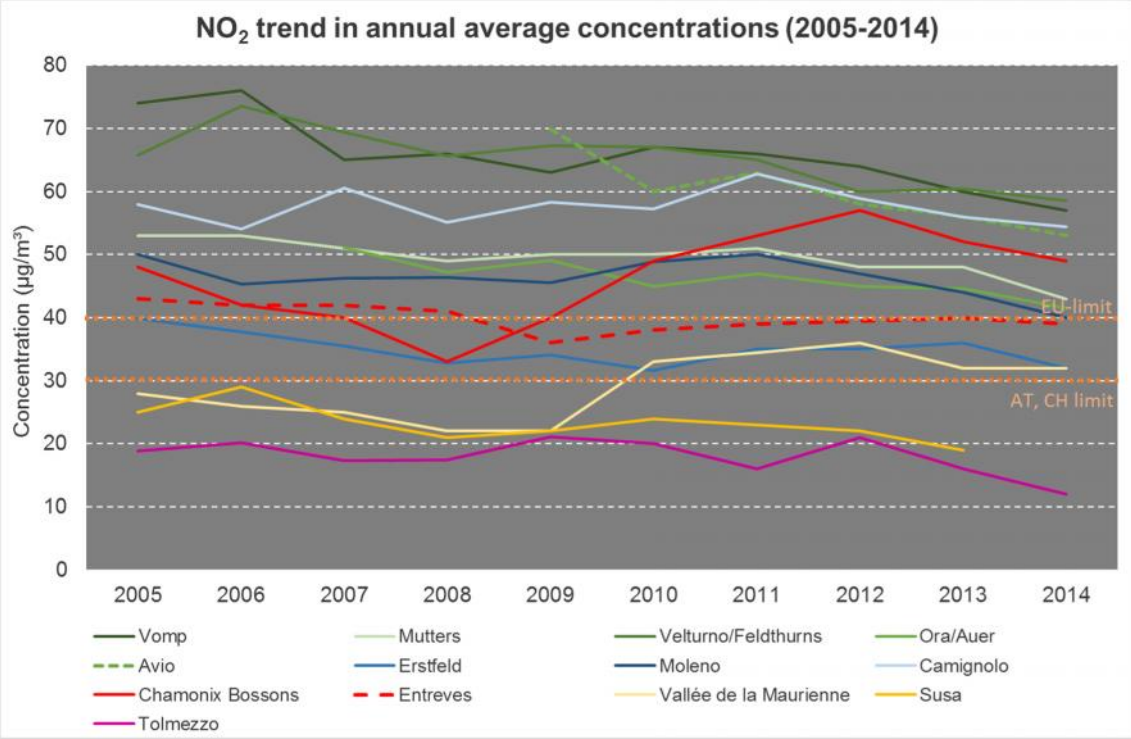

Figure 7: NO_2 trend in annual average concentrations (2005-2014)[3]

[3] The value for the station Vallée de la Maurienne in 2011 represents the average 2010-2012; the value for Entreves in 2011 and 2012 represents the average 2010-2013.

Similar to NO_2, the analysis of the **particulate matter (PM_{10})** concentration measurements is restricted to the roadside stations. The levels of the PM_{10} concentrations in the iMONITRAF! corridors do not spread over a wide concentrations range (10-20 µg/m³) as it is observed in the case of NO_2 (10-60 µg/m³). The highest values in 2014 were measured in Avio (22 µg/m³) and Vallée de la Maurienne (20 µg/m³).

The decreasing trend (Figure 8) continues also in 2014, with the exception of Avio (Brenner corridor) and Entreves (Mont Blanc). A diachronic analysis reveals that after a significant decrease between 2005 and 2007, the concentrations remain overall more or less constant until 2010. An increasing trend is visible in 2011, followed by three years of significant decrease. As for NO_2, a main reason for the decreasing trend is the improvement of the emission factors of diesel vehicles. It is caused technically by the increasing number of vehicles equipped with particle filter systems, which are mandatory for the latest Euro classes. Year-to-year fluctuations are also driven by meteorology. An example is the station Erstfeld (Gotthard), where the wavy pattern happens simultaneously for PM_{10} and NO_2.

Some caveats are necessary: PM_{10} concentrations are influenced also by other sources than transport, such as wood heating installations, and by secondary PM_{10} built from gaseous precursor pollutants like NO_x, SO_2, NH_3, VOC, which may have been emitted long distances form the iMONITRAF! corridors away. Secondary PM_{10} can contribute to half of the concentration measured. Therefore, the fluctuations identified in Figure 8 may not only be explained by the development of the road transport emissions.

The EU limit value for the annual average (40 µg/m³) is not exceeded at any station; the limit value of Austria and Switzerland (20 µg/m³) is not hit at any Austrian or Swiss station. In Susa data is not available for the year 2014.

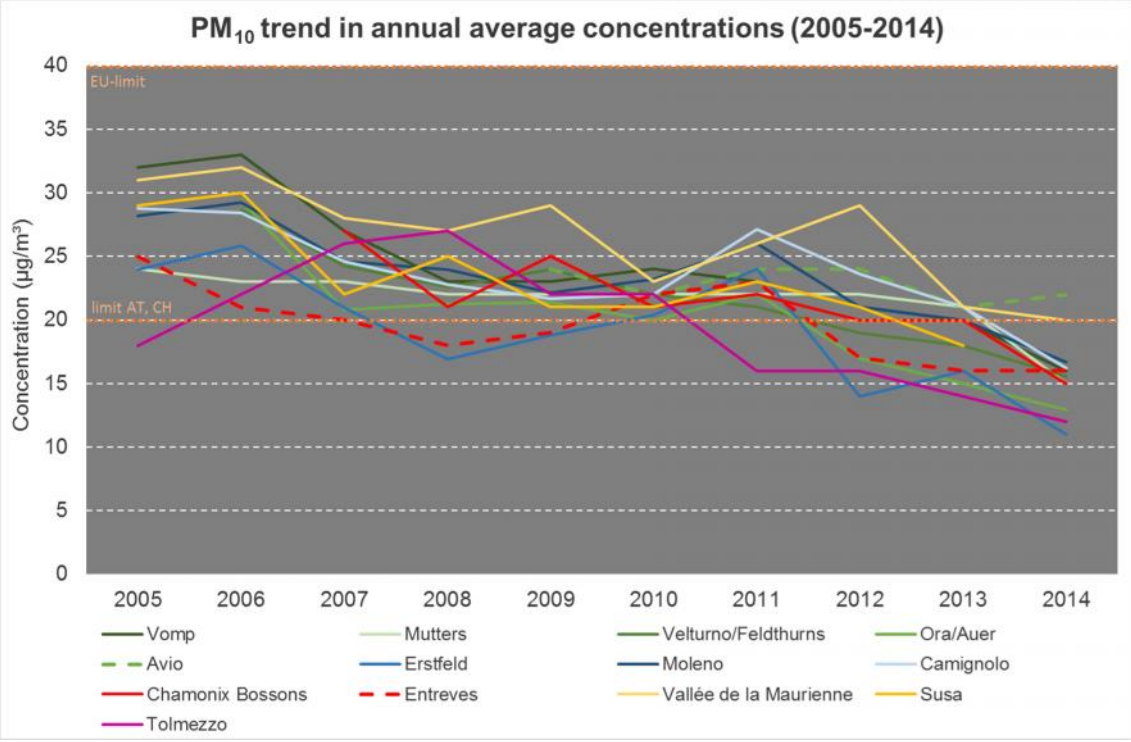

Figure 8: PM_{10} trend in annual average concentrations (2005-2014)[4]

[4] The value for Vallée de la Maurienne in 2011 represents the average of the years 2010 and 2012.

Indicator "Noise"

Noise has been measured through the indicators L_{den} (Figure 9) and L_{night} (Figure 10). The former defines the overall noise level during day, evening and night and is used to describe the exposition over the 24 hours of the day. The latter is the indicator for the sound level during the night (sleep disturbance). A comparison of noise levels between the corridors is not adequate, because the distance of the microphones to the streets is not homogeneous. However, the variations along the individual corridors are consistent throughout the years.

The Gotthard and the Mont-Blanc are the only corridors with continuous data collection for the period 2005-2014 (measuring stations of Camignolo, Reiden and Courmayeur), whereas noise is not monitored at the Brenner corridor. Time series of noise in Camignolo and Reiden are in line with time series of the traffic volumes passing Gotthard, while variations of the noise level in Courmayeur are not correlated with similar variations of the traffic volume of Mont Blanc. Along the Tarvisio (Camporosso) and the Fréjus (Bardonecchia), only partial data is available.

Figures 9 and 10 show that L_{den} lies in the range between the 79.6 dB(A) (Reiden, Gotthard) and 70.1 dB(A) (Bardonecchia, Fréjus) while L_{night} lies between the 72.0 dB(A) (Reiden) and 62.6 dB(A) (Bardonecchia). Increasing noise levels are recognized at Courmayeur (Mont Blanc) for L_{den} and L_{night}, whereas reductions were measured at Bardonecchia and Borgone (road), both along the Fréjus corridor. Time development of L_{den} and L_{night} look for each station very similar: that means that the ratio between traffic at night to traffic volume over the whole day has not changed in the period observed. Camignolo (Gotthard) is a special case: L_{den} and L_{night} show an enormous decrease by 3 to 4 dB(A) from 2012 to 2014. The reduction is the consequence of a new noise-reductive paving in the vicinity of the measurement station.

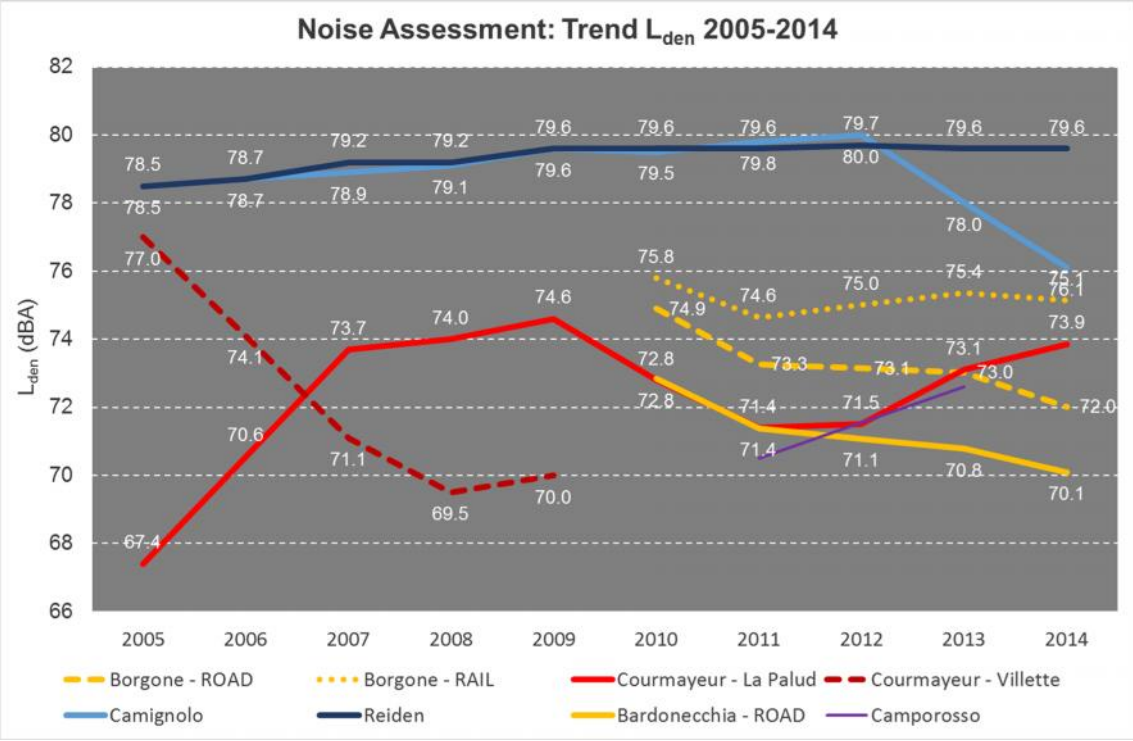

Figure 9: L_{den} trend 2005-2014[5]

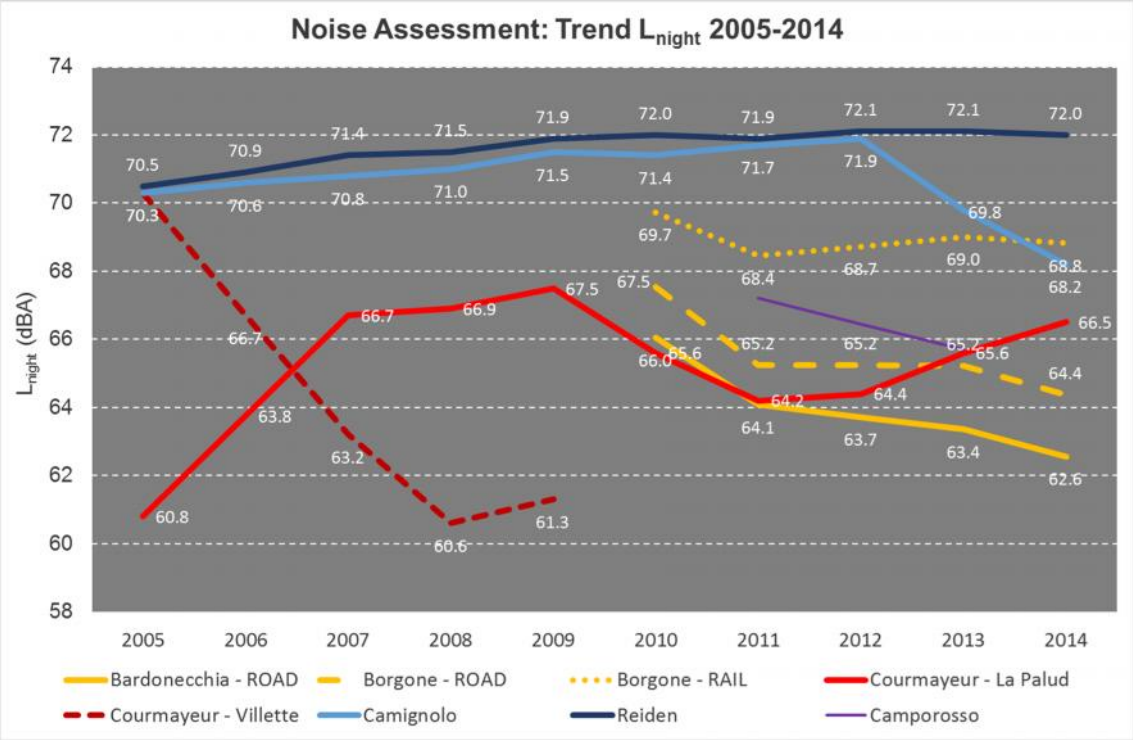

Figure 10: L_{night} trend 2005-2014[6]

Indicator "Toll prices"

Toll prices are calculated for specific alpine passage segments of the five iMONITRAF! corridors. The segments are as follows:

- Fréjus: From Aiton (FR) to Avigliana (IT) via Fréjus road tunnel (154 km)
- Mont Blanc: From Le Fayet (FR) to Pont Saint Martin (IT) via the Mont Blanc road tunnel (129 km)
- Gotthard: From Luzern (CH) to Chiasso (CH) via the Gotthard Road tunnel (176 km)
- Brenner: From Kufstein (AT) to Affi (IT) via the Brenner Pass (314 km)
- Tarvisio: from Gemona to Tarvisio (60 km)

The assessment is performed for the passage of a standard passenger car and two standard heavy duty vehicles of 5 axes and 40 tons, with distinction between EURO-classes II and V. The objective is to assess the effect of the toll price measures on the transalpine vehicle fluxes. The sums for the single alpine passages for the year 2014 are visualized in the illustration.

The prices refer to the prices for a single passage. This holds for the Fréjus and Mont-Blanc tunnels, the Austrian highway vignette and the separate Brenner highway toll on the A13 in Austria as well as for the Swiss highway toll (passenger cars). For these corridors return tickets and yearly subscriptions are also available, which would lower the overall cost for a single passage. For Switzerland only a yearly ticket is available (40 Swiss Franks).

[5] Data for Courmayeur – La Palud (year 2006), Bardonecchia and Camporosso (year 2012) is not available. The average value between the previous and the following year has been considered.

[6] Data for Courmayeur – La Palud (year 2006), Bardonecchia and Camporosso (year 2012) is not available. The average value between the previous and the following year has been considered.

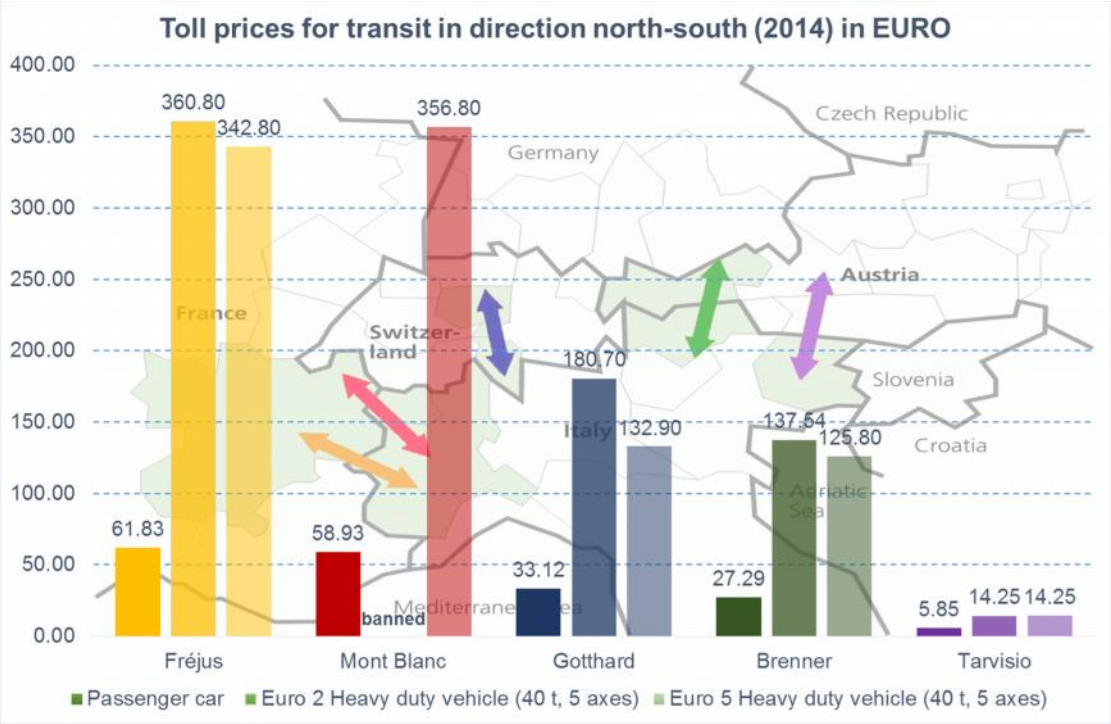

Figure 11: Toll prices for a single transit on the iMONITRAF! corridors in direction north-south for the year 2014

For **passenger cars** the highest charges are applied in the Fréjus and Mont Blanc corridors. Here, apart from the highway tolls, the additional tunnel tolls (Fréjus, Mont Blanc) are responsible for the high overall sum compared to the other corridors. It is also important to strike out that the tunnel tolls on the Fréjus and the Mont Blanc differ according to the direction of travel, due to the different VAT applied: they are higher when travelling from Italy to France (43.10 € instead of 42.40 € for both Fréjus and Mont Blanc). The charges for both the Gotthard and the Brenner are in the midrange of the iMONITRAF! corridors, while the cost for a passage on the Tarvisio is the lowest due to the relatively short distance of the considered road segment. A mentioned above, for Switzerland only a yearly ticket is available. That means that only the first passage of a passenger is charged while every subsequent passage within the same calendar year is free.

For **heavy duty vehicles**, road tolls follow the similar west-east-divide as for passenger cars. The corridors on the west (Fréjus and Mont Blanc) charge the highest tolls while both the Gotthard and the Brenner charge medium-ranged sums. The Tarvisio charges the lowest tolls for a passage. It is also the only corridor which has not yet applied a distinction of charges between single emission classes, which has a significant effect on the overall charges of the other corridors. In this context, the biggest difference is visible at the Mont Blanc, where Euro II vehicles are banned[7]. At the Gotthard, a EURO V truck only pays 73% of the charge of a EURO II vehicle. A further analogy for the situation of passenger cars is that the tunnel tolls on the Fréjus and the Mont Blanc also differ according to the direction of travel for heavy duty vehicles: due to the different VAT, the charge is higher when travelling from Italy to France (314.40 € compared to 309.20 € for a EURO V truck for both Fréjus and Mont Blanc). Finally, along the Austrian part of the Brenner highway, a different toll is due according to the part of the day when the travel occurs: nighttime driving is more expensive (by about 63%) than daytime. In Figure 11, a daytime travel is considered.

[7] A ban for Euro II vehicles with trailers is valid also along the Austrian part of the Brenner highway.

Note that the statements above show the absolute costs of selected trips. For logisticians the unitary costs – the costs per vehicle kilometer (vkm) – can be another important criterion for choosing the corridor and the traffic mode. This indicator shows that the order of corridors from highest to lowest costs remains the same as for the absolute costs: Fréjus 2.23 €/vkm, Mont Blanc: 2.77 €/vkm, Gotthard 0.76 €/vkm, Brenner 0.40 €/vkm, Tarvisio 0.24 €/vkm (these number hold for a heavy vehicle with Euro V technology, 40 tons). The most significant difference is recognized between Gotthard and Brenner, which are relatively close to each other on the level of absolute costs in Fig. 11 (Gotthard is 6% higher than Brenner), but drift apart on the level of specific costs (Gotthard is 90% higher than Brenner).

A general feature of absolute and relative costs is that high tolls correlate with low traffic volumes and vice versa: the Fréjus and the Mont Blanc tunnels have the highest tolls and the lowest traffic volumes among the five iMONITRAF! corridors (see indicator "Road traffic volumes"). Finally, the trend from 2005 to 2014 shows increasing tolls.

Indicator "Fuel price"

The fuel prices distinguish between diesel and petrol. The values shown in Figure 12 are annual averages of the values officially registered in every country on four different dates (namely, on the 15th of January, May, July and October). Data is provided by ÖAMTC for Austria, the Federal Statistical Office for Switzerland, ISTAT for Italy and INSEE for France.

In comparison to 2005, overall prices increased in all countries, but with a significant fluctuation during the economic crises of 2008 and 2009. From 2009 onwards, there has been a strong increasing trend until 2012 followed by a decrease in all countries in 2013 and 2014.

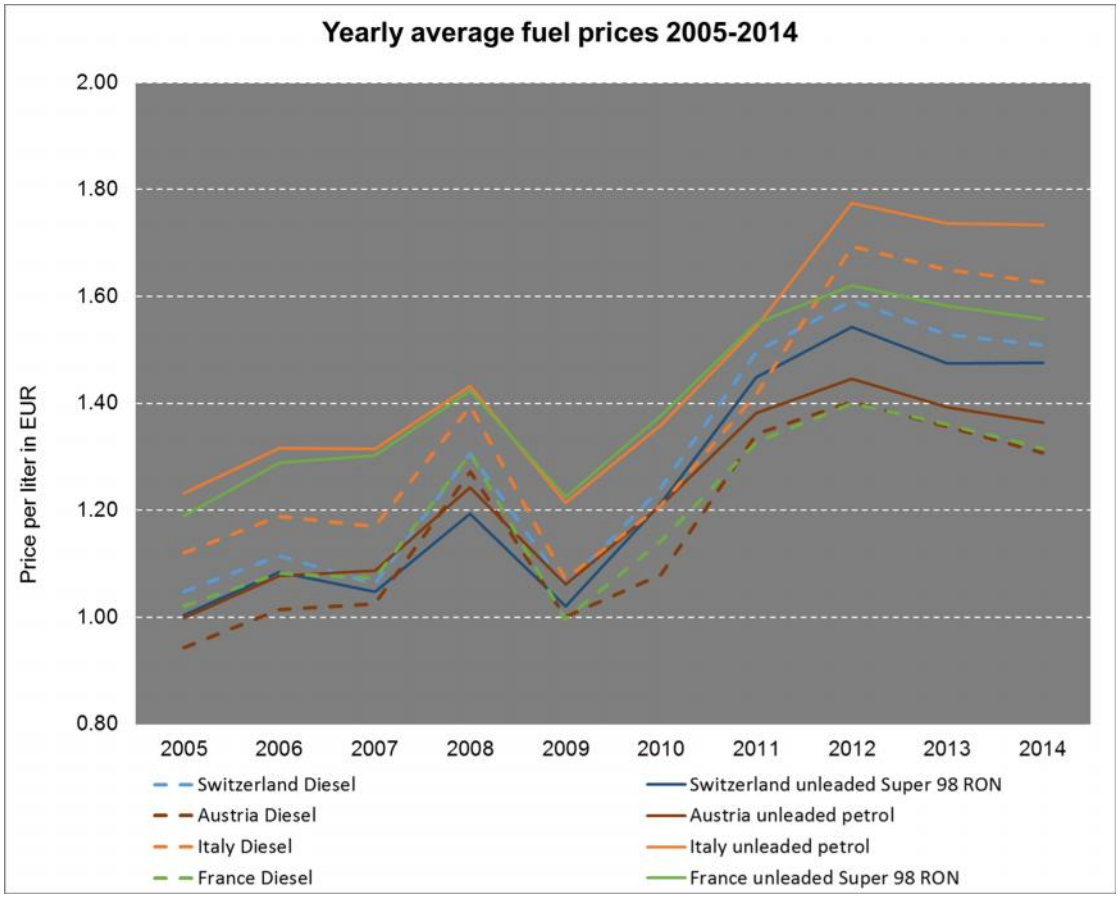

Figure 12: Annual average of fuel prices

4 Moving ahead on regional and national level: Update on Best Practices

For this Annual Report, all partner regions of iMONITRAF! have reported interesting developments concerning Best Practices. In general, no major new developments took place but several adjustments/improvements of existing measures strengthen and re-confirm the policy mix. It is especially interesting to see that most developments are related to pillar 3 of the instrument mix which focuses on modal shift policy with push and pull measures. The regulatory framework with driving bans, speed limits, etc. seems pretty much exhausted and the focus shifts more to financial incentive measures. Also, several measures related to passenger transport were reported in 2015 which cover different segments of passenger transport – from services for local citizens to tourism-related infrastructures.

OVERVIEW: BEST PRACTICE UPDATE 2015

Policy Pillar	Name of measure	Country/region
Pillar 2: Limiting negative impacts of Alpine transport	Review of overall policy package „IG-Luft“ with its three regulations on driving bans (night-driving ban, driving ban for high-emitting HGV, sectoral driving ban)	Tyrol
	Extension of HGV inspection centers, new inspection center on Gotthard motorway in Ticino	Switzerland/Ticino
Pillar 3: Modal Shift	**Modal shift policy mix**	
	Adjustment of modal shift policy agreed: increase of HGV fee and reduction of track charges in 2017	Switzerland
	Overall revision of freight transport law (Güter-transportgesetz) which abolishes the priority of passenger transport on the rail network	Switzerland
	Reservation system for combined transport: adjustment of subsidy rates in 2015 and extension to innovative technologies	Switzerland
	Financial support for modal shift projects (among others rolling motorway)	Trento/South Tyrol
	Extension of concession on A22 Brenner motorway and confirmation of cross-financing	Trento/South Tyrol/I
	Revised scheme for Lyon urban area logistic sector coherence	Rhône-Alpes
	Infrastructure	
	Gotthard base tunnel: test runs started in October 2015	Switzerland
	Beginning of construction at main tunnel, further work in progress on other tunnel sections	Tyrol/South Tyrol
	Agreement between France and Italy to build Lyon-Turin base tunnel as planned. Beginning of the tunnel construction in St Martin la Porte	Rhône-Alpes
Pillar 4: Passenger transport	New law on “public mobility” (bus, rail, cableways): Improving and reorganization of the public transport frame	South Tyrol
	Agreement with RFI (Rete Ferroviaria Italiana) and other stakeholders on crucial infrastructure develop-	South Tyrol

Policy Pillar	Name of measure	Country/region
	ments: 1) new connection tracks between Pusteria Valley and Brenner railway line, 2) new tracks in Bolzano area with Virgl tunnel, 3) new connections between high Pusteria valley and Venice	
	Green tourism: Ski Pustertal Express (direct train connection to and between skiing areas Kronplatz and Sextner Dolomiten	South Tyrol
	New railway line Mendriso-Varese to improve attractiveness of cross-border public transport	Ticino (Lombardia)
	New cross-border train connections in the Euregio and other cross-border regions	Tyrol
Pillar 5: Innovative approaches	Increased cooperation in the Euregio South Tyrol, Tyrol and Trentino: 1) confirmation of common modal shift policy, 2) Euregio takes over the lead of EUSALP action group 4	Tyrol, South Tyrol, Trentino

Table 1: *Source: Compilation of the iMONITRAF! network*

4.1 Overview on revised and new Best Practices

4.1.1 Pillar 1: Information, monitoring, awareness raising

Pillar 1: no changes in 2015. Monitoring campaigns are continued as in previous years and as summarized by the iMONITRAF! monitoring activities (see chapter 3).

4.1.2 Pillar 2: Limiting impacts of Alpine transport

Pillar 2 includes command-and-control measures to limit negative impacts of transalpine freight transport as well as accompanying measures for modal shift. In 2015, no major new measures were implemented in the iMONITRAF! regions but several measures and policy packages have been reviewed to adjust them dynamically.

In **Tyrol**, the overall policy-package „IG Luft“ has been evaluated in 2015 in order to meet air quality targets along the Brenner corridor until 2020. This evaluation includes a revision of the three driving bans which are implemented in Tyrol (night driving ban, ban for high-emitting HGV, sectoral driving ban). Some specific steps to further develop these driving bans have been agreed and will soon be notified to the European Commission:

- The night driving ban stays an important element in the “IG Luft” package. It is foreseen that the current exemption for EURO VI vehicles shall expire at the end of 2020.
- The ban for high-emitting HGV shall be extended to additional emission categories: EURO III vehicles will be banned starting from 2017 (2019 for HGV without trailer) and EURO IV will be banned starting from 2022.
- The sectoral driving ban shall be re-implemented in two steps: starting from July 2016, the transport of waste materials, stones & soils, round timber & cork as well as motor vehicles will be banned. In October, it is foreseen to extend the ban to no-ferous and iron ores, steel, marble & travertine as well as tiles.

In **Switzerland**, the overall modal-shift policy mix was reviewed with the 2015 Report on Modal shift ("Verlagerungsbericht"). The report includes a review of the existing regulatory instruments, especially the enforcement mechanisms to control existing regulations. In addition to an increase in mobile controls, additional control centres are mentioned. To improve HGV controls on the Gotthard motorway, an additional "maxi" enforcement centre will soon be opend on the southern side of the Gotthard tunnel in Monteforno and will operate similar to the existing one in Erstfeld [8].

4.1.3 Pillar 3: Modal shift

Pillar 3 focuses on modal shift measures, including both push and pull measures. A large amount of developments took place in 2015 so that they are presented in two sub-sections. The first sub-section deals with an update on policy measures while the second section deals with developments related to rail infrastructures.

Modal Shift policy – Push and pull measures

In **Switzerland,** modal shift policy has been reviewed in the frame of the Report on Modal shift 2015 (Verlagerungsbericht). This report was agreed by the Swiss Federal Council in December and foresees the following additional measures:

- The Swiss HGV fee will be adjusted in 2017: EURO III, IV and V vehicles will be shifted to a more expensive category and the existing rebate of 10% for EURO VI HGV will be abolished.
- Track charges shall be reduced by about 10% with an adjustment of two cost components (increased costs for higher quality will not be passed on to users and an additional rebate will be given on the cost element of wear and tear).

On the other hand, subsidies for combined transport in form of the reservation system were slightly decreased in 2015 and will further decrease in 2016. The reservation system is now also applicable to innovative technologies (especially horizontal loading techniques such as CargoBeamer or Modalohr)[9]. A first CargoBeamer service between Cologne and Melzo is financially supported since spring 2015 in the frame of the reservation system (220 trains and about 4'800 shipments).

In addition, the Swiss parliament confirmed an overall revision of the law on freight transport (Gütertransportgesetz). This includes several measures to secure capacity for freight transport on important infrastructures. With the implementation of "network concepts" and "network plans", two new instruments are implemented which de facto abolish the existing priority regulation for passenger transport. By means of these instruments, an effective infrastructure allocation to both freight and passenger transport shall be secured. Especially, this revision shall guarantee that Alpine crossing freight transport will benefit from new capacities on the Gotthard and Ceneri base tunnels as well as of the 4-metres-corridor.

The **autonomous Province of Trento** is working, together with the **Province of Bolzano,** to introduce incentives for the use of the rolling motorway, in particular for transport from the terminal of Trento through the Brenner Pass. In 2015, specific design features of this financial sup-

[8] (see Best practice measure "Enforcement centre in Erstefeld in Best practice Guide 2010 for further information)
[9] For further information on these technologies please refer to Lückge, H., Maibach, M., Heldstab, J. and D. Bertschmann (2011): Innovative Approaches for the Alpine Transport System.

port system have been proposed and discussed. The necessary finances come from a common modal shift fond which also support other modal shift projects.

Regarding infrastructure financing, it is also crucial to mention the approval of the **agreement between the Italian State, the Region Trentino Alto Adige, the autonomous Provinces of Trento and Bolzano** and other relevant regional and local administrations to award the concession of the A22 Brenner motorway. The agreement allows the use of the cross financing fund for the construction of the Brenner Tunnel, implemented until today and amounting to 550 Mio Euros[10]. Furthermore, it foresees to proceed with the cross financing during the next years.

In the region **Auvergne Rhône-Alpes**, an innovative scheme for the logistic sector has been implemented – focusing at the moment on the Lyon urban area but with relevance for Alpine transit transport (Schéma de coherence logistique de la region urbaine de Lyon). As the second most important area for logistic activities after Paris, Lyon seeks to reinforce its position at European level. The schema is a partnership approach bringing together municipal governments, central government local departments, professional organizations, the Logistic Cluster, SNCF Mobility, SNCF Network (ex-RFF), etc. The new scheme has 5 key objectives: 1) To prepare the future freight intermodal hub, thanks to CFAL and Lyon-Turin infrastructures. 2) Despite the contextual constraints, to focus on the development of wagonload transport, 3) To develop facilities according to Lyon metropolitan ports strategy in order to encourage the use of rail and waterways, 4) To experiment with the concept of public land ownership for logistic activities and 5) To conciliate logistic market development and land saving.

Infrastructure developments

Crucial developments have taken place along all major corridors, especially regarding the construction of base tunnels.

On the **Gotthard corridor**, the new Gotthard base tunnel has been tested since October 2015. During the testing period, operability and security of the base tunnel are checked. After the testing phase, the tunnel will officially be opened with a great celebration on June 1st, 2016. The Ceneri base tunnel, as second important tunnel construction, which is also part of the overall Gotthard rail corridor infrastructure, has finally been cut through in January 2016 and will be opened in 2020.

On the **Brenner corridor**, construction work has begun on the main tunnel of the Brenner base tunnel in March 2015. The launch of the construction has been celebrated with policy makers from national and European level and has been framed by the signature of the “Brenner Memorandum”. In this Ministerial Declaration, the mobility councilors of Tyrol, South Tyrol and Trento agree to specific elements of a common modal shift policy (e.g. harmonization of tolls, improvement of interoperability, support of an Alpine Crossing Exchange, etc.) and call for support from European level.

As a further important base tunnel project, the construction of the **Lyon-Turin base tunnel** has finally been approved by the Italian and French government. In February 2015, French president François Hollande, French Secretary of State for transport Alain Vidalies and Italian infrastructure and transport minister Maurizio Lupi signed an agreement to go ahead with a new €26 billion railway linking Lyon and Turin. This agreement follows the approval of the project by the Italian Interministerial Committee for Economic Planning (CIPE) on February 20, paving the way for an application for TEN-T funding from the European Union (EU). The French and Italian governments obtained up to 41% EU support for the period 2015-2020 on CEF first call, with 813 million Euro funding for recommended eligible cost of 1,9 billion Euro.

[10] See iMONITRAF! Annual Report 2013 for further information.

In the same year, the two countries have created a new company to manage the project, Euralpine Tunnel Lyon – Turin (TELT), which is a 50:50 joint venture between Italian State Railways (FS) and the French state. TELT assumes the role of the former Lyon Turin Railway (LTF) committee and is conducting the digging of the descending shafts at Chiomonte (Italy) and Saint-Martin-la-Porte (France).

4.1.4 Pillar 4: Passenger transport

In several iMONITRAF! regions, some new Best Practices were implemented in 2015 focusing both on infrastructure development as well as the regulatory framework.

The **Canton of Ticino** implemented various new passenger transport measures in the year 2015. An important infrastructure project is the new cross-border railway connection Mendrisio (CH) – Varese (I) which improves the connection Ticino – Varese – Como. With this new section, direct connections from Ticino to Malpensa airport as well as Berne can be implemented, thus improving accessibility of the region. The new railway section will be used by 6.500 – 7.500 passengers per day. In addition, new public transport networks were implemented in Bellinzona and Mendrisio.

In **South Tyrol**, the government approved a new law on „public mobility“ which brings together all relevant regulations on public transport and is now consistent with the EU framework (especially regarding tendering processes). The new law regulates tendering processes, contracts and all payment issues for trains and bus services, bus and shuttle services in skiing areas, transportation of pupils and many more. By bringing together all relevant regulations in one law, the legal framework becomes much more transparent and thus strengthens the role of public transport users. The public mobility law entered into force in December 2015, new bidding processes as regulated by this law will start in spring 2016.

Also in South Tyrol, some important infrastructure developments for public rail transport were approved. In December, the governor of South Tyrol signed an agreement with representatives of the Brenner base tunnel company, the Italian railway operator RFI and the infrastructure operator of South Tyrol agreed to develop a feasibility study as well as a testing project to develop the project “Riggertalschleife” which shall link the Pusteria Valley railway line to the new Brenner line. The project is financed with 1.5 million Euros by the environmental compensation fund of the Brenner base tunnel. The project includes adjustments at the train station in Brix, Vahrn and Schabs as well as the intermodal center.

In the frame of this meeting with RFI and other stakeholders, it was also discussed to further develop railway tracks in Bolzano with a construction of the Virgel tunnel. This tunnel will provide additional infrastructure capacities in Bolzano and will thus considerably improve public transport in the area. The project will be started in 2018 with an estimated costs of 52 million Euro. A third project includes the agreement to develop a feasibility study for the design of the railway connection between high Pusteria valley and Venice through Cortina d’Ampezzo and thus to improve connections between the regions of Veneto and South Tyrol.

Regarding green tourism mobility, it is also interesting to mention the “Ski Pustertal Express” which implements the concept “from train to slope”. With a new rail service, tourists can directly reach both skiing areas Kronplatz and Sextner Dolomiten and can travel between them. In 2015, 98% of all skiers reached the ski area via train and about 200 skiers per day travelled between the two ski areas. This new service improves the attractiveness of the ski areas in South Tyrol and at the same time strengthens the positon of the Alpine region as “green region”.

The improvement of cross-border passenger transport is also an important topic in **Tyrol**. Since the end of 2014, new direct connections were established from Innsbruck to Bozen and Lienz.

This improves the accessibility within the Euregio. With the help of a new tariff design, traveling in the Euregio also gets easier: tickets for cross-border trips can now be bought online as well as at ticket machines at the stations. Also, it is foreseen to establish a Euregio-Family-ticket which allows travelling on the whole Euregio network. In addition, other cross-border train connections are currently improved and planning processes are ongoing with Switzerland (for the region around Landeck) and with Germany (for the region Kufstein and Außerfern).

4.1.5 Pillar 5: Innovative approaches

Pillar 5 includes innovative approaches – including technological developments, innovative steering instruments as well as innovative organizational approaches. Regarding steering instruments, chapter 5 includes a more detailed explanation of iMONITRAF! activities regarding Toll Plus.

In 2015, the strengthened cooperation along the Brenner corridor shall be highlighted as Best practice measure. Already at the end of 2014, the regions of Tyrol, South Tyrol and Trentino had agreed to develop a common modal shift policy along the Brenner corridor. A formal decision was then taken during the last meeting of the "Dreier-Landtag" to further develop Toll Plus as a common instrument and to financially support the development of rolling motorway infrastructures and services. This agreement was reconfirmed on several occasions in 2015.

The Euregio strengthens its cooperation in the field of transport by taking over the lead of Action Group 4 of the macroregional strategy EUSALP which deals with transport and mobility issues.

4.2 Best Practice Update in the light of previous recommendations and latest trends in transalpine traffic

Similar to developments in the previous year, 2015 did not bring along major new developments. However, the existing modal shift policy mix was re-confirmed and strengthened in most of the regions as well as on national level. In both Tyrol (regional level) and Switzerland (national level), overall policy packages were reviewed in 2015 and adjustments of existing measures were agreed. Other interesting Best Practices relate to infrastructure development, cross-financing as well as cooperation agreements. Also, several developments in the field of passenger transport were reported in 2015:

- Brenner corridor: In Tyrol, the overall policy package "IG-Luft" was reviewed together with its three specific regulations on driving bans. The existing policy mix was confirmed with several dynamic adjustments to take account of technological developments. Also, a timetable was fixed to re-implement the sectoral driving ban. Also, the Italian regions along the Brenner corridor strengthened their modal shift policy mix and improved cooperation along the corridor. A joint ministerial declaration of the three regions Tyrol, South Tyrol and Trento foresees the implementation of a common modal shift policy to accompany the new railway infrastructures as provided by the Brenner base tunnel. This also includes the continuation of a cross-financing approach as currently implemented in Tyrol with the mark-up concept and on the Italian side of the Brenner under the renewed concession agreement.
  → Developments along the Brenner corridor are obviously in line with the policy mix as proposed by the iMONITRAF! strategy. All short-term measures of the strategy are implemented in Tyrol and several elements also in the Italian regions. With the increase cooperation, partners along the Brenner corridor have become an imprortant driver for iMONITRAF! in 2015.

- Gotthard corridor: the review of the Swiss modal shift policy foresees some adjustments of major elements. Even if the LSVA shall only be increased in 2017 this is an important signal for modal shift policy and strengthens the internalisation rationale along the corridor. With this step, most of the short-term proposals as suggested in the iMONITRAF! proposal on Toll Plus are de facto implemented (see chapter 5 for further information). Also, some crucial elements for rail infrastructure management have been agreed in the revised law on freight transport. An efficient use of new base tunnel capacities will be crucial to realize the full benefits of the new infrastructures.
  → As the Gotthard base tunnel is about to be opened in 2016, some important accompanying measures are currently adjusted. Especially, the management of new capacities will have to be monitored carefully and experiences on the Gotthard corridor can be shared with other corridors.
- French-Italian corridors: On the French-Italian corridors Mont Blanc and Fréjus, now major new developments have taken place. An important step is the final agreement for the construction of the Lyon-Turin base tunnel, which will trigger the design of accompanying measures in the next years. The new scheme for the logistics sector in the Lyon urban area can be considered as a first element of a broad policy mix which will support the infrastructure development.
- Passenger transport: In 2015, many new infrastructure developments were reported by iMONITRAF! partners. These do not only focus on improved connections along the corridors (North-South) but also aim at improving connections within the Alpine Space (East-West). In particular, several cross-border infrastructures were completed which improve accessibility of the region and the mobility of inhabitants. Also, some interesting measures related to tourism and urban mobility were reported which aim at “greening” the Alpine regions.

5 Toll Plus as common instrument – specific proposals for an optimised scenario

In the last Annual report published in January 2015, some first elements for a Toll Plus System from a regional viewpoint were summarized. In the meantime, the network conducted a further in-depth analysis and specified the regional Toll Plus proposal for an optimised scenario. First ideas for an optimised scenario were discussed in a written feedback round with political representatives in spring 2015 and a specific proposal was discussed during the political roundtable in Bolzano at the beginning of November 2015.

The regional proposal on Toll Plus

With the help of this in-depth analysis, the iMONITRAF! regions propose some specific design elements for a Toll Plus system. Discussions on an optimised scenario show that the following features will be crucial from a regional viewpoint:

- Rationale: iMONITRAF! has the main objective to reduce the environmental burden of transalpine transport.
- Toll level: It is useful to define the ‘Plus’ of the toll level based on the level of additional cost (infrastructure cost, external cost). The specific implementation can however be linked to either specific external cost factors or a standardised mark-up. The scenario

evaluation (estimation of additional external cost, impact analysis and level of meeting the regional aims) showed that a level of 20 to 25 €ct/km defines an approximate range of the 'Plus'.

- Flexibility of toll levels: Toll Plus should serve as a mechanism to harmonise toll levels across the iMONITRAF! corridors. A proportionally higher toll increase along the Brenner corridor would be necessary to achieve this objective. The rationale and structure of the 'Plus' shall support steps towards harmonisation of today's charging schemes.
- Toll differentiation: Toll Plus should provide incentives for efficient use of HGV and an improvement of the vehicle mix (beyond EURO VI, facing a differentiation according to CO_2-emissions).
- Perimeter: The basis should be the exemplary distances used in the scenarios (around 300 km). In a second step it will be possible to extend a Toll Plus system to the broader road network.
- Exemptions for regional transport should consider the size of trucks and the distance. They should not create any negative incentives regarding environmental performance.
- Revenue use should be left to nations and a share of 30% to 50% to the regions along the corridors. Revenues shall be allocated to specific projects and cross-modal financing.

Stepwise implementation

Toll Plus elements can be implemented in a step-wise approach:

- First step harmonised maximum charging under today's legal conditions. This would include a full use of Eurovignette Directive for the EU member states (implementation of mark-up factor and/or external cost charging). For Switzerland, this would imply a full use of the potential charging under the bilateral agreement EU-CH, implemented through an "A crossing levy" (Alpentransitabgabe). This "Alpine crossing levy" would fill the gap between the current average charge for an alpine crossing of 281 CHF (2013 data) and the maximum charge as fixed in the bilateral agreement of 325 CHF. The most important argument is the fact, that the additional infrastructure cost at the Gotthard axis are not fully covered with the today LSVA based charge. As the full potential of the bilateral agreement is currently not used, the "Alpine crossing levy" can be implemented without any changes to the existing LSVA regime for the remaining road network. The implementation of an "Alpine crossing levy" should be legitimated as additional effort to create a common pricing framework along all alpine crossings.
  → This step shall be implemented in the short-term. If regional representatives of iMONITRAF! agree on a common strategy on Toll Plus during the next political roundtable (planned for summer 2016), an implementation until the end of 2017 should be foreseen.
- Second step further adjustment towards the ambitious Swiss toll levels. This requires an extension of the current Eurovignette Directive (either extension of external cost pricing or mark-up approach). For Switzerland, this second step would include no further adjustments.
  → This step is linked to the European timeframe on revising the Eurovignette Directive. The revision has already been launched internally and shall be finalised until the end of 2016 (see chapter 6 for further information). If the implementation is launched directly after the revision of the Directive, a timeframe until 2017/2018 seems realistic.

- In the mid-term, toll levels could be adjusted dynamically, including toll increases in Switzerland which depends on the future development of the bilateral agreement towards a regionally differentiated HGV pricing scheme.
- In the long-term, the iMONITRAF! regions still call for an additional implementation of an Alpine Crossing Exchange. Toll Plus can lead to a better implementation of the polluter-pays principle and can have a steering effect towards a modernized vehicle fleet. But it will not be sufficient to meet the ambitious traffic targets of the iMONITRAF! strategy which are foreseen for 2030. Thus, with the opening of the base tunnels and the full availability of their capacities, Toll Plus should be supplemented by an ACE .The Toll Plus System can however remain, as it generates a minimum price level and a structural effect and thus supports an ACE in a suitable way.

Recommendations on next steps in the frame of iMONITRAF!

iMONITRAF!'s analysis offers the basis for further discussing a regional Toll Plus proposal on political level. The key features as defined above should be backed by a political agreement of regional representatives to gain more networking and lobbying power.

A first position paper containing the main regional proposals from the in-depth analysis was developed and discussed with regional representatives in spring/early summer 2015. This position paper can be used for initial networking activities but an official political mandate is still missing. Thus, the iMONITRAF! partners have discussed to further develop the regional Toll Plus proposal in the frame of a political resolution. Such a resolution could be signed by political representatives during the next political roundtable foreseen for autumn 2016 in Central Switzerland.

6 Trends for transport and environmental policies on national and EU levels

6.1 Current transport issues

6.1.1 Relevant developments on EU level

Update on Connecting Europe Facility (CEF)

On July 2015, the European Parliament and the CEF coordination commission approved the European Commission's 13,1 billion Euro CEF infrastructure investment proposal. This is the largest infrastructure investment in the transport sector in the European Union and it is expected to unlock additional public and private co-financing for a combined amount of 28.8 billion Euro. The 2014 CEF calls for proposals attracted over 700 projects totalling more than 36 billion Euro of requested funding. 13,1 billion were assigned to a total of 276 projects.

As foreseen by the CEF programme priority-setting, the vast majority of recommended funding (more than 12 billion €) is concentrated on the Core Network Corridors. The two main base tunnels through the Alps were allocated respectively 1,18 billion € for the Brenner base tunnel and 0,81 billion € for Mont Cenis base tunnel. This shows once again the importance of the Alps in the TEN-T strategy. Smaller-scale initiative include the "Southern section of the Railway Bypass around the Lyon Conglomeration", which is a strategic point at the intersection of two European freight corridors North Sea Mediterranean and Mediterranean corridors.

In November, the EU-Commission launched the second call for proposals of the Connecting Europe Facility, with more than 7.6 billion Euro of investment to finance transport projects - 6.5 billion Euro of which is earmarked for cohesion countries. One part of the General Call is dedicated to urban nodes of the core Trans-European Transport network with a 50 million Euro budget; and one part of the Cohesion Call is also dedicated to those nodes also with a 50 million € budget, but a higher co-financing rate of up to 85%. Applicants have to submit their proposals until 16 February 2016. The outcome of the calls will be published by summer 2016.

Towards a new "Road Transport Package" and a revision of the Eurovignette Directive

In 2015, activities were launched on the "EU Road Transport Package" which evaluates and revises major relevant legislation on road transport. This includes the Eurovignette Directive as framework for road pricing, the development of an European Electronic Toll System (EETS), the regulations on cabotage as well as social standards. For all elements of the Package, impact assessments were launched[11] and initial discussions have started in the European Commission.

A public consultation on the individual elements of the Road Transport Package will be launched in early 2016.

Update on developments regarding HGV dimensions/gigaliners

The EU will not allow further cross-border traffic of mega-trucks, it has confirmed, reinforcing the earlier decision made by EU transport ministers to reject the European Commission proposal. The final decision at one of the secretive trialogue meetings was the confirmation of a long European process involving the Parliament, transport ministers and European Council. The Directive (EU) 2015/719 of the European Parliament and of the Council of 29 April 2015 is amending Council Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic. Concerning the issue of cross-border traffic of mega-trucks, this Directive maintains the strict rules of the earlier Directive 96/53/EC.

Towards more competition in domestic rail services

European Union transport ministers reached an unanimous agreement on the general approach to the "Political Pillar" of the Fourth Railway Package at a meeting of the EU Transport Council in October 2015. Already January 2013, the European Commission had adopted the Fourth Railway Package of measures intended to deliver better quality and more choice in railway services in Europe. Implementation of the "Technical Pillar" to improve safety and interoperability was already agreed and the recent agreement now focuses on the remaining "Market Opening Pillar" and "Governance Pillar". The European Commission, Parliament and Council have begun trialogue negotiations to reach an agreement on the text of the regulations.

Under the market opening proposals, train operators would have non-discriminatory access to operate domestic passenger services on the network of any member state, either competing commercially with other operators or bidding for public service contracts.

Timescales now agreed for implementation of these changes are longer than those originally put forward by the Commission. On governance, member states would have three years to implement key rules on independence and financial transparency, with non-discriminatory access required from 2020. On market opening, national authorities would be able to award public ser-

[11] For the Eurovignette Directive, the discussion is based on a previous impact assessment of 2013: http://ec.europa.eu/transport/modes/road/road_charging/doc/swd%282013%291.pdf

vice contracts directly for a further ten years, and existing contracts would be allowed to run until they expire.

6.1.2 National level

In **Switzerland**, the overall modal shift policy has been reviewed in 2015 in the frame of the Modal shift report (see section on Best Practices). Based on this review, some adjustments to the Swiss HGV fee as well as the subsidies for combined transport as major instruments are foreseen for 2017. However, the discussion on modal shift policy is still dominated by the topic of a new second road tunnel at the Gotthard, which shall ease construction work on the existing tunnel. Swiss citizens will have a vote on this tunnel in a public referendum which will take place on 28th February 2016.

In 2015, **Italy** has fully implemented Directive 2012/34/EU which establishes a single European railway area with the legislative decree n°112/2015. The decree identifies the rules about the use and the management of railway infrastructure for national and international transport; criteria that rule the issue, the extension or the modification of licenses as well as the definition of guidelines and procedures to determine adequate charging and capacity-allocation schemes. Already at the end of 2014, the national infrastructural plan on recharging points for electric vehicles (piano nazionale infrastrutturale per la ricarica dei veicoli alimentati ad energia elettrica, GU n.280, 2-12-2014) has been approved. This plan proposes a roadmap to develop an adequate infrastructure to support the electric mobility. The main aspects, among the others, are: definition of a minimum infrastructural standard, creation of a national platform, integration with mobility plans and other forms of urban planning. Also at the end of 2014, the National action plan about Intelligent Transport Systems (ITS), D.M. 12 febbraio 2014 n.44) has been adopted. This plan indicates the priorities set by the Italian government and referred to as Intelligent Transport Systems, providing an analysis of the current condition at national level, a selection of the measures to be implemented, the necessary time frame and the expected benefits.

In **Austria,** motorway tolls have been reviewed in 2015 in order to meet requirements of the Eurovignette Directive. According to new calculations, the special toll on the Brenner motorway between Innsbruck and Brenner exceeded the relevant infrastructure and external costs and a reduction became necessary. Thus, new toll rates for the Brenner motorway became effective at the beginning of 2016. At the same time, the mark-up on the Lower InnValley has been increased from 20% to 25%. For 2016, an overall revision of the current law on road pricing (Bundesstraßenmautgesetz) is foreseen. The Austrian Ministry of Transport BMVIT has already agreed with the Chamber of Commerce to design a new toll system closer to the principle of external costs – with a basic price element for all HGV and a differentiated external cost pricing element.[12]

6.2 Current environmental issues

6.2.1 EU level

Update on macroregional strategy EUSALP

In 2015, the framework for the macroregional strategy EUSALP became much clearer and major elements of the strategy and action plan was confirmed. A draft strategy and action plan was

[12] https://www.wko.at/Content.Node/branchen/oe/TransportVerkehr/Stoeger-Klacska:-Weiterentwicklung-der-LKW-Maut-ab-2017.html

published at the end of April 2015 and some final comments could be proposed by national representatives. At the end of July 2015, the Commission adopted a final Communication and an Action Plan on the EU Strategy for the Alpine Region.

The Action Plan dedicates a specific action to intermodality and interoperability in passenger and freight transport (Action 4). For this action, the further development of existing projects and cooperations at marcoregional scale under EUSALP is mentioned as an option. This means that operating iMONITRAF! in the EUSALP framework could be an option in the future.

In autumn 2015, regional and national representatives could state their interest to take over the lead function or membership in the different action groups. The European Region Tyrol - South Tyrol - Trentino (Euregio) has applied for leadership of Action Group 4 on transport and its interest has been confirmed by the EUSALP Steering Group at the end of the year. Several other iMONITRAF! partners will also be a member of this action group so that a good synchronization of the processes is assumed.

The Launch Conference of EUSALP took place at the end of January 2016 and from now on, the different actions will be implemented. Within the Euregio, Tyrol is taking over the lead for Action Group 4 and plans to establish a first work programme until the end of March 2016.

Air quality: National emission ceilings 2020 on air pollutants

EU Commission plans to implement the emission ceiling of the revised Gothenburg Protocol (under the UNECE Convention on Long-range Transboundary Air Pollution) as national caps on emissions of six key air pollutants as endorsed by Parliament on 28th October 2015.

There are national emission ceilings for sulphur oxides (SO_x), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), methane (CH_4) ammonia (NH_3), and fine particulates (PM2.5), which have to be achieved by 2020, as stated in the Gothenburg Protocol[13].

Inputs for COP 21 in Paris

In 2015, the European Commission prepared several inputs for the COP 21 event in Paris which had the objective to develop a legally binding climate deal on global level. The "Paris Protocol - A blueprint for tackling global climate change beyond 2020"[14] was published in March 2015 and sets out major elements for a global climate agreement from the EU perspective. It translates the decision taken at the European Summit in October 2014 into the EU's proposed emissions target - its Intended Nationally Determined Contribution (INDC) which had to be submitted to the UNFCCC by the end of the first quarter 2015. The document also sets out a vision for a transparent and dynamic legally binding agreement, containing fair and ambitious commitments from all Parties based on evolving global economic and geopolitical circumstances. As emission target, the European Commission decided to reduce the emissions EU-wide by 40% until 2030 (compared to 1990).

Switzerland also set an emission target and submitted its pledges on 27th February 2015 saying that the greenhouse gas emission shall be reduced by 50% until 2030 (compared to 1990).

Energy Union Package

Also, in preparation to the COP 21 event and as implementation step for an ambitious climate change policy at EU level, the European Commission adopted a strategy for a European Energy

[13] http://www.unece.org/fileadmin/DAM/env/documents/2013/air/eb/ECE.EB.AIR.114_NG.pdf
[14] http://eur-lex.europa.eu/resource.html?uri=cellar:e27fdb4d-bdce-11e4-bbe1-01aa75ed71a1.0003.03/DOC_1&format=PDF

Union. By unveiling its strategy to achieve a resilient Energy Union with a forward-looking climate change policy, the European Commission delivers on a top priority set out in President Juncker's political guidelines.

6.2.2 National level and international level

At the **Paris climate conference (COP**21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal[15]. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C. The agreement is due to enter into force in 2020 and includes the following key elements on climate change mitigation:

- Targets: a long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels; In addition, the agreement aims to limit the increase to 1.5°C, since this would significantly reduce risks and the impacts of climate change;
- Pathway: the agreement recognises the need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries; Also, it is seen that rapid reductions have to be undertaken thereafter in accordance with the best available science.
- In addition, the agreement includes elements on adaption, loss and damage and international support.

iMONITRAF!'s set short-term (2020) and long-term targets (2030) in its strategy which was signed in the iMONITRAF! resolution in May 2012. These targets accounted for greenhouse gas emissions, too. The new political document planned for 2016 (see following section) shall respect the new targets 2030.

7 Outlook 2016: final year in the current Coordination Point agreement and transition to a new phase

Considering the developments in the past year 2015, the following major topics seem relevant for 2016:

Agenda setting for 2016: A political document on Toll Plus and common instruments

As mentioned in chapter 2 the Toll Plus proposal shall be further developed to express the regional perspective in connection with the overall policy mix and other common instruments to become a political document (resolution or agreement). It is foreseen to sign the document during the next political roundtable to be held in Central Switzerland in autumn 2016.

This political document shall also include an agreement on how to continue the iMONITRAF! network beyond its current phase which will end in 2016. In Bolzano, political representatives expressed the need to continue the cooperation and to secure the independence of iMONITRAF! as long as the EUSALP framework is not yet fully defined. I was proposed to continue the current cooperation in the years 2017 and 2018 and then to discuss a merger with the

[15] http://unfccc.int/files/home/application/pdf/paris_agreement.pdf

EUSALP framework if adequate. Specific elements and activities of this continued cooperation will be discussed in spring 2016 and will then be fixed for the event in autumn 2016 as well.

Political roundtable in Central Switzerland

As lead partner of the current iMONITRAF! phase, Central Switzerland will host a political roundtable in autumn 2016 during which the political document on Toll Plus and the future of iMONITRAF! shall be signed. This event is seen as transition from the existing phase with the Coordination Point (2013-2016) and a new phase for the network. The event will be crucial for agenda setting as well as coordination on political level.

Networking opportunities in 2016: Toll Plus in focus

Networking activities in the upcoming year will clearly focus on Toll Plus and its relation to the other elements of the iMONITRAF! strategy. On European level, the Eurovignette Directive will be reviewed in 2016 and there will be several windows of opportunity to feed propositions from the Alpine regions into the process. A public consultation on the Eurovignette Directive is foreseen for early spring 2016 and the political discussion will start at the end of 2016 or beginning of 2017. Regarding the regional Toll Plus proposal, it will also be important to network closely with representatives of the Suivi de Zurich process. The Suivi de Zurich process also plans to conduct a study on Toll Plus in 2016 and it will be important to streamline the different proposals to enable a political impact on EU level.

In addition, a close networking with the EUSALP Action Group 4 and its lead partner in Tyrol is foreseen. Several iMONITRAF! partners will participate in the relevant working group and, if possible, the Coordination Point will also become an independent member.

Monitoring activities in 2016

The monitoring activities of the network will also be continued in 2016. The indicators as presented in chapter 3, will again be collected by the regions. The results will be interpreted and reported in iMONITRAF!'s next annual report in early 2017.